IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/086,183	Confirmation No.: 8214
Applicant	:	Christer O. Andreasson	
Filing Date	:	02/26/2002	
Title	:	SYSTEMS AND METHODS FOR TRACKING PHARMACEUTICALS WITHIN A FACILITY	
Group Art Unit	:	2636	
Examiner	:	Julie Bichngoc Lieu	
Docket No.	:	706737.38 (formerly 263/292)	
Customer No.	:	34313	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF CHRISTER O. ANDREASSON AND JIMMY C. CAPUTO UNDER 37 C.F.R. §1.131

Sir:

The undersigned inventors, Christer O. Andreasson and Jimmy C. Caputo make this declaration attesting to the conception of the present invention prior to the effective filing date of January 11, 2002 of the cited Martucci et al. published application No. 2004/0104271, and likewise prior to the filing date of January 29, 2002 of the cited Bui et al published application No. 2003/0141981.

1. The basic concept of the invention was conceived in 2001 as evidenced by the block diagram of Exhibit 1, which was briefly described at a subsequent Board

CERTIFICATE OF MAILING
37 CFR §1.8

I hereby certify, pursuant to 37 CFR §1.8, that I have reasonable basis to expect that that this paper or fee (along with any referred to as being attached or enclosed) would be mailed or transmitted on or before the date indicated with the United States Postal Service with sufficient postage as first class mail on the date shown below in an envelope addressed to the Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Dated: June 29, 2005

Jodie Davis

Meeting of the Assignee Safety Syringes, Inc. as indicated by Exhibit 2, sketched on a napkin of Exhibit 3 , and described in an invention disclosure of Exhibits 4a-c, and other documents described below, all in 2001.

2. A purchase order in the amount of $4,767.30 was issued to Automation Controls to build a RFID demonstration case with labels as evidenced by Exhibits 5a and b, all in 2001.

3. Proposed terms of an agreement with Escort Memory Systems (EMS) was developed as evidenced by Exhibit 6 (two pages), and their proposal and Purchase Order of Exhibits 7a and b, all in 2001.

4. Further initial specifications for the RFID Med Error System were developed as evidenced by Exhibit 8 (two pages), a document of Exhibit 9 (two pages) defining the relationship with EMS, and which was illustrated and described in a Board of Directors meeting as evidenced by Exhibits 10a and b (ten pages) and shown in diagrams of Exhibits 11a-c, and a demonstration software proposal by subcontractor NEXTWERK, as shown in Exhibit 12 (ten pages), all in 2001.

5. Successful tests of a plate reader in making substantially simultaneous readings of plural tags, made by EMS in 2001 are shown on Exhibits 13a and b, and proof of concept of Smart Drawer is shown in Exhibits 14a-c, all in 2001.

6. Requirements for a demonstration system were developed in early 2002, before January 11, 2002, as shown in Exhibits 15a-e.

7. All of the foregoing occurred before the effective filing date of January 11, 2002 of the Martucci patent. Subsequent thereto, continued diligent efforts were made

in working with the supplier EMS as evidenced by a meeting agenda of January 17, 2002 between the Assignee of the present application and EMS of Exhibit 16, Drawer System drawings dated January 16, 2002 of Exhibits 17a-f, and overall system diagram dated January 17, 2002 of Exhibit 18.

8. Work with a supplier EMS continued as evidenced by their price quotation revised January 23, 2002 and Purchase Order dated January 29, 2002 of Exhibits 19a and b, Med Error System (Demo) of Exhibits 20a-c, cabinet and drawer drawing of January 31, 2002, drawing of February 11, 2002 and dispensing station rendering dated February 15, 2002, as evidenced by Exhibit 21a-c.

9. The RFID Med Error System was further described and discussed at a February 19, 2002 Board of Directors Meeting as indicated in Exhibit 22 (six pages), and meeting Minutes of February 25, 2002 and further descriptions of system and progress as evidenced by Exhibit 23 (22 pages), and

10. E-mails and photographs dating from January 12, 2002 to February 28, 2002 of Exhibit 24 (19 pages), further show diligence in developing the system and method of the present application.

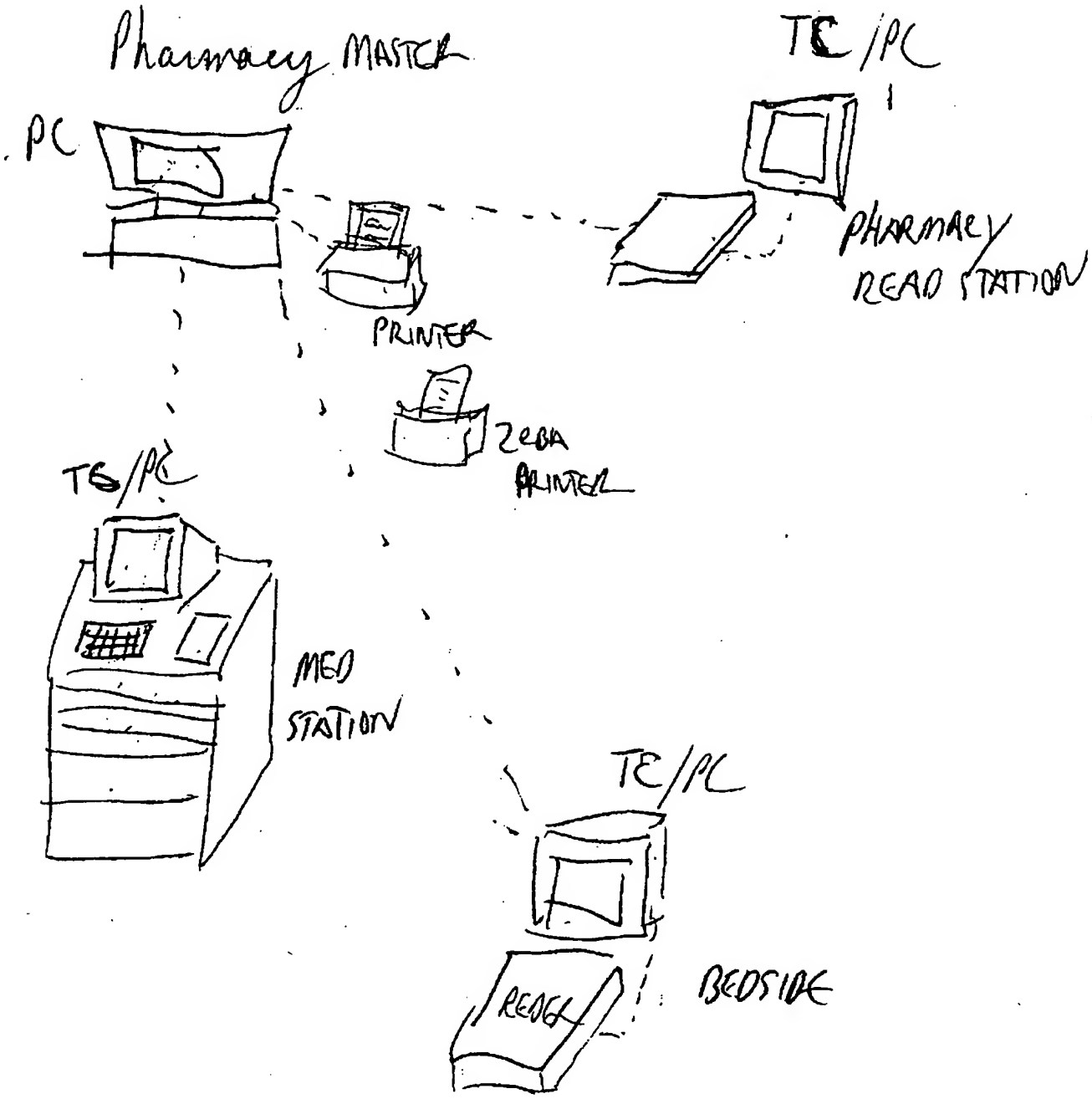
11. The present application was filed February 26, 2002.

We further declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18,

United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 6/28/05 By: _____
Christer O. Andreasson

Dated: 6/28/05 By: _____
Jimmy C. Caputo



1. WIRELESS CONNECTION BTWN STATIONS
   CAT5 OPTIONAL BACKUP

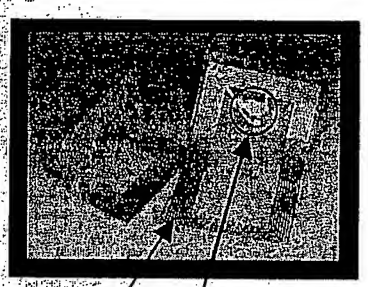
2.

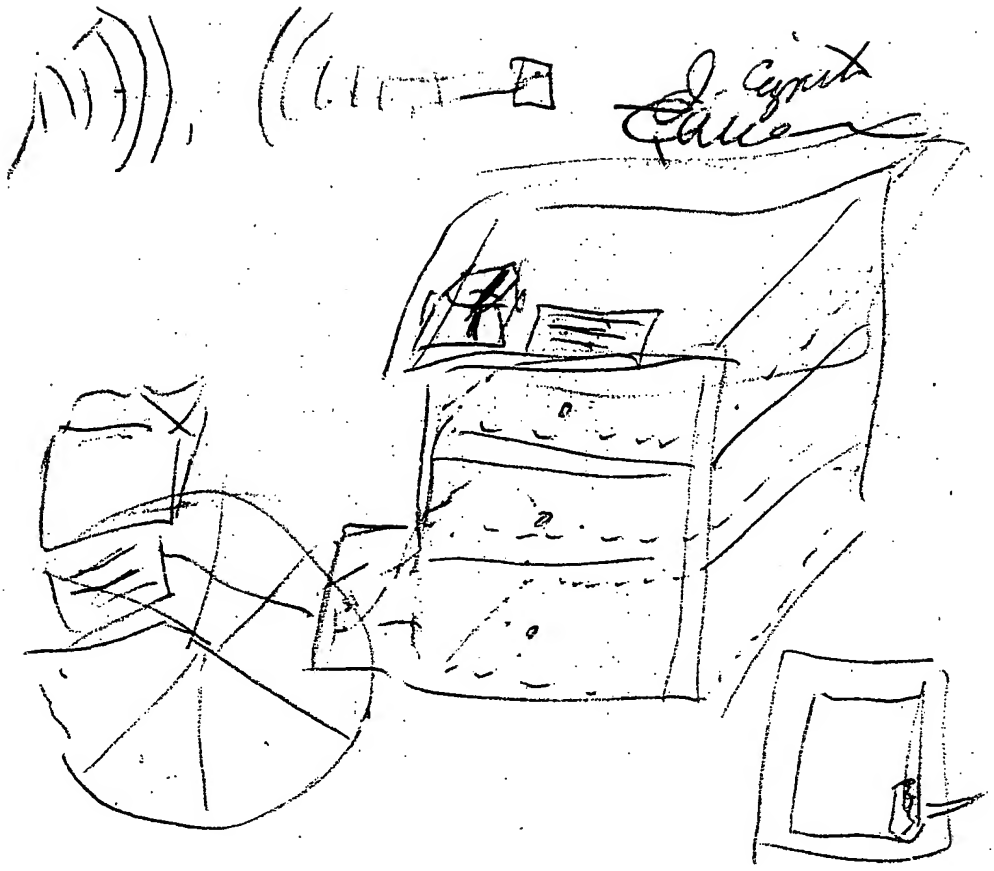
UltraSafe
PRODUCTS & SERVICES

SafetySyringes, Inc.™

Technology Group

- **Product Coding Project**
  - Presented RFID Technology to VISI (Vaccine Identification Standards Initiative) Meeting
    - Awaiting formal word but informally notified we will be invited to present at the "top three" technology selection meeting
  - Have Identified two sources for RFID labels
    - Both will entertain exclusivity for medical applications
    - Both offer "turnkey" solutions for RFID implementation (labels, readers, software)
  - Technology currently being used successfully in
    - Postal applications
      - DHL
      - Italian Postal Service
    - Manufacturing process control/data recording
      - Engine manufacturing
      - Meat industry
      - Disk hard drives





FRIDAY @ 10.00
Eugene Work

Christer Andreasson

To: waenglish@lyonlyon.com
cc: jcap519@worldnet.att.net

Subject: CA/JC Invention/Automated Medication Error Prevention System for Replenishment/Dispensing/Administration

Bill,
Here is my first stab at describing the invention we discussed last week. Please see the drawing we provided. This drawing only covers part of the invention.

Background: Medication errors are a major concern within the US health care system and initiatives are put in place to address these issues (note IOM reports). As a result a large number of patients are given the wrong drug, potentially resulting in death. Today, the dispensing and administration of medications within hospitals, require manual verification of drugs dispensed by Pharmacy and nursing staff. Systems addressing these issues are offered by Pyxis, McKesson, OmniCell and Diebold. Dispensing systems are typically located on nursing floors, Emergency care units and Intensive care units. These are connected to the hospital/pharmacy database and able to verify the correctness of patient prescriptions. Bar-code readers are sometimes located on the nursing floors and used to verify, at bedside, that the correct drug is going to be administered to the intended patient. Using these could be time consuming for the nursing staff since they require individual scanning. There are very few installations and hence uses of these readers in the US and abroad. As the use of "point of care" will increase these systems will need to be automated and hence become safer, more accurate, less depending on manual verification ("honor system") and much less time consuming to use.
The invention: A complete, hospital wide system, which automatically records the inventory, dispensing, replenishment and administration of drugs, within the health care setting and which is integrated to the data processing system presently in place in the individual institutions. The system may initialize verification of content as these different devices are accessed and/or may be updated from time to time as required. At the point of care (for example at patient bedside) a device is being used which would automatically and instantly verify that multiple drugs, which have been dispensed with the intent to be given to a specific patient, is prescribed for the intended patient and that no mix-ups have taken place from the time of dispensing.

Hope this is sufficient for you to start writing the patent application.

Best regards,
Christer

PS. Jim, please edit as you feel is required.

"TAG-IT" — TRADEMARK ?

Preliminary Requirements Engineering Document

Author: Prasad Mahendra <*pmahendra@all-tral.com*>

The demonstration will be a distributed computing system, with user stations running distributed applications with a central database/application server.

Demo Stations

- Three Types of stations (or user level access) have been identified for this demonstration
  1) Doctor
  2) Nurse (user level access only or may be given a separate station to mimic a 'nurse station' at a hospital)
  3) Pharmacist
  4) Patient Bedside
  5) Floor Cart

- The each station in the demonstration will be a separate and distributed stand alone x86 machine running Solaris OS connected via a switched wireless local area network (*).
- All users are subject to authorization through a smart card/reader (or biometrics) before allowed access to a station (*)

Doctor:

- Doctor may prescribe a medication to a patient which is electronically routed to the pharmacist computer system or directly to a floor medical cart (*)
- A doctor may specifically authorize a nurse (or someone else) through their unique id to pick up and deliver medication.
- Prescription process will automatically check for any allergies to the medication and warn the doctor. The warning will be a visual user friendly cue.

Nurse

- A nurse may pick up medication from a floor medical cart. The floor cart will keep track of information such as who took which item, the time, etc
- A nurse may administer a drug to a patient subject to Patient bedside station protocols.
- A nurse may pick up and deliver a medication directly from the pharmacy

Pharmacist

- Has an RFID scanner, a monitor/screen, authorization device - smart card reader or biometrics scanner, keyboard, mouse or touch sensitive screens (*)
- May restock pharmacy (receive items)
- May restock floor cart

- May issue medications to nurse or a patient directly if allowed
- Prescription process will automatically check for any allergies to the medication and warn the pharmacist. The warning will be a visual user friendly cue (*).
- May print reports (MARs, inventory etc)

Bedside Station

- Has an RFID scanner, a monitor/screen, authorization device - smart card reader or biometrics scanner, mouse or a touch sensitive screen (*)
- A bedside RFID scanner will scan a medication and authorize its administration
- A bedside monitor will visually identify the patient and visually cue authorization of the administration of the medication.
- The bedside system may be manually overridden by an authorized nurse/doctor eg: Head nurse or a senior surgeon (*).
- The bedside scanner will append/update appropriate reports to indication the administration of a medication.

Floor Med-cart

- Has an RFID scanner, a monitor/screen, authorization device - smart card reader or biometrics scanner, keyboard, mouse or touch sensitive screens (*)
- Contains a continually scanning (RFID) system to keep track of all medications inside.
- Opens drawers per authorized user per prescription or per selected medication
- Keeps track of drugs and user access and generates reports whenever a user has removed an item.
- Electronically controlled drawer locking mechanisms (*)
- "Return Drawer" – creates an updated "Returned Inventory"

(*) – Implementation details subject to change given the system development constraints (time, cost, robustness/reliability etc).

SafetySyringes, Inc.™

auto 0002

PURCHASE REQUISTION

COPY

PURCHASE ORDER # (if required): 100453 M
(yes)

REQUEST DATE: EXPECTED DELIVERY DATE:

REQUESTED BY: JIM CAPUTO

VENDOR NAME:	AUTOMATION CONTROLS	SHIP TO (if applicable):	WILL CALL
ADDRESS:	743 CAMDEN AVE.		~~SSI~~
CITY, STATE & ZIP:	CAMPBELL, CA 95008		~~1925 PALOMAR OAKS WAY~~
PHONE:	(800) 922-6646		~~STE 204~~
FAX:	(408) 370-1356		~~CARLSBAD, CA~~

QUANTITY	DESCRIPTION (See QUOTE)	UNIT PRICE	EXTENDED PRICE	CHARGE TO ACCOUNT ####-##-#####
1	CXO-1131 LRP W. PLATE DEMO KIT	$3995	$3995	6325-00-1001
1	LRP-04 CONV.	$695	$695	6325-00-1001
1 LOT	SAMPLE LABELS	$77.30	$77.30	6325-00-1001
	TOTAL		$4767.30	

Is this purchase taxable? YES ☒ NO ☐
(All non-inventory items are taxable. Please advise the vendor to charge tax on the invoice.)

Are freight charges included in the prices above? YES ☐ NO ☒

PURCHASE APPROVED(signature): _____

DATE: _____

PURCHASE RECEIVED COMPLETE (signature): _____

DATE: _____

AUTOMATION CONTROLS

CORPORATE HEADQUARTERS
743 Camden Avenue, Campbell, CA 95008
Phone: (800) 922-6646 Fax: (408) 370-1356

6325-00-1001
Coding

Safety Syringes, Inc.
Jim Caputo
1925 Palomar Oaks Way Suite 204
Carlsbad CA 92008
jcap519@worldnet.att.net
(760) 435-2171 (FAX)
Dear Jim:

Proposal #
RJ0107260849

Proposal Name
RFID Demo Case with labels

Thank you for the opportunity to provide this proposal for the following control equipment.

Item #	Part Number	Description	Delivery	Qty.	Unit Price	Extended
1	00-1131	LRP Wide Plate Suite Case Demo		1	$ 3,995.00	$ 3,995.00
2	LRP-04	LRP Conveyor Antanna only		1	$ 695.00	$ 695.00
3	LRP-L2666	Peel "n" Stick Label Tag 26 x 66mm		10	$ 0.97	$ 9.70
4	LRP-L5555	Peel "n" Stick Label Tag 55 x 55mm		10	$ 1.09	$ 10.90
5	LRP-L4982	Peel "n" Stick Label Tag 49 x 82mm		10	$ 1.22	$ 12.20
6	LRP-125HT-FLX-01	High Temp Flex Tag		10	$ 4.45	$ 44.50
7	LRP-L1331-TD	Converted Label with printing on wax paper backing on a 4" roll		2000	$ 2.04	$ 4,080.00
8	LRP7400	I-Code Handheld		1	$ 1,529.00	$ 1,529.00
9	LRP Software	Application Software		1	$ 325.00	$ 325.00
10	F970USA	In Stock Charger with cables to PC interface		1	$ 225.00	$ 225.00
11	F970/C USA	In Stock Charger only		1	$ 180.00	$ 180.00
					Total:	$11,106.30

F.O.B.: Automation Controls Facility for all UPS surface shipments. All orders shipped directly from the manufacturer or via a shipping method other than UPS surface will be F.O.B. manufacturer location.

Delivery: See above for individual delivery dates.

Terms: Net 30 days upon prior approval by the Automation Controls Credit Department.

Pricing: Prices are provided firm for your acceptance within a 30-day period from the date of this proposal. All prices are quoted based on costs as of the date of this proposal and are subject to change based on actual costs at the time of shipment.

Thank you again for the opportunity to provide our equipment and support. We look forward to receiving your purchase order so we can deliver these controls in accordance with your manufacturing time frame.

Sincerely,

Rich Jackson
Automation Controls

SafetySyringes, Inc.™

Re: Proposed Terms of Agreement

This letter of intent proposes an agreement between Safety Syringes, Inc. ("Safety Syringes") and Escort Memory Systems. ("Escort Memory Systems").

The principal terms of the proposed arrangement, to be embodied in a Definitive Agreement executed at a later date, are as follows:

Background:

- Safety Syringes manufactures devices to enhance the safety and performance of pre-filled, unit-dose drug delivery systems.
- Escort Memory Systems develops and manufactures "RFID label and reader technology" consisting of microchips and labels used to track the contents of pharmaceutical containers and medical devices ("RFID Label/Reader Technology").
- Safety Syringes desires to purchase the RFID Label/Reader Technology from Escort Memory Systems for use in conjunction with Safety Syringes' sale of its devices, or separately, to third parties.

Orders and Delivery:

- Escort Memory Systems will deliver to Safety Syringes such quantities of RFID Label/Reader Technology as ordered by Safety Syringes from time to time, at such prices as mutually agreed by the parties.

Exclusivity:

- Escort Memory Systems will not sell or otherwise deliver any RFID Label/Reader Technology to any third party for use in hospital products and systems associated with product/patient tracking, record keeping and medication error prevention systems.
- SSI acknowledges that this clause may not apply to negotiations with third parties for use in the field of human healthcare already under evaluation with Escort Memory Systems as of the date of this Letter Of Intent.
- Safety syringes will not purchase RFID Label/Reader Technology from any third party.
- Neither party will grant or otherwise transfer to the other party any intellectual property rights. Without limiting the foregoing, Escort Memory Systems will maintain its patent positions in making, reading, and applications of RFID Label/Reader Technology.
- The parties will agree upon the terms of maintaining Safety Syringes' exclusivity to the RFID Label/Reader Technology hospital products and systems associated with product/patient tracking, record keeping and medication error prevention systems, including any minimum purchase requirements, fees or diligence obligations relating to commercialization of such technology.

This letter of intent is a non-binding proposal. All rights and obligations of the parties are subject to the negotiation, execution and delivery of the Definitive Agreement. If you are in agreement with the foregoing, please confirm such agreement by signing and returning to me a copy of this letter. At that time, I believe it would be appropriate to create the Definitive Agreement.

IN WITNESS WHEREOF, the parties have executed this letter of intent as of the date first set forth above.

Escort Memory Systems

By: Cathleen Hadeen

Title: Chief Financial Officer

Safety Syringes, Inc.

By:

Title: PRESIDENT

ESCORT MEMORY SYSTEMS
A DATALOGIC GROUP COMPANY

170 Technology Circle
Scotts Valley, CA 95066
Phone (831) 438-7000
Fax (831) 438-5768

PRICE QUOTATION

Customer: Safety Syringes Inc.
Contact Name: Jim Caputo
Address: 1939 Palomar Oaks Way, Suite A
Address:
City, ST Zip: Carlsbad, CA 92009
Fax: 760 918 9908
Phone: 760 918 0565

Quote Number 011206A
Quote Date
Expiration Date
Page Number 1

Part #	Description	Qty	List Price per unit	Disc.Price per unit	Ext. Price	Delivery
App 083 NRE	Stage 1 - Proof of Concept Development. EMS will develop a proof of concept prototype to demonstrate the capabilities of a smart drawer antenna system capable of reading pharmaceuticals and medical supplies. A minimum of two compartments will be demonstrated with manual switching between the compartment antennas. SSI to provide samples of medical items to be tagged. Tag sizes to be approximately 13x33 but may very depending upon sample items submitted. This prototype will be limited to the antenna geometry and circuit design. No enclosure design is to be done at this stage. Upon successful completion of this task EMS will provide Stage 2 & 3.	1	$ 5,000.00	$ -	$ 5,000.00	2 weeks from receipt of PO
App 083 NRE	Stage 2 - Design Implementation. EMS will implement the design concept developed in stage 1 and incorporate a multiplexer design that will allow a single controller to pole multiple antennas/drawers minimizing the number of controllers required for this product solution. EMS will provide design input and consolation services to Oliver Design who will be manufacturing the pharmaceutical cabinet required for stage 3.	1	$ 25,000.00	$ -	$ 25,000.00	3 weeks from SSI approval to proceed. Note: EMS is closed form 12/24/31 through 1/1/02.
App 083 NRE	Stage 3 - Design Integration. EMS will sub-contract to Oliver Design Inc. (ODI) to design and manufacture a demo unit of the smart medical cabinet. ODI will provide a cabinet as depicted in the drawing presented at the 11/20/01 meeting at ODI. This unit will include a touch screen monitor, PC-based control, I/O circuitry and controls for automated drawer openings. EMS will provide the design input required for the successful integration of the antennas and controllers. EMS to provide the controllers and installation of the RFID circuitry. NOTE: SSI is to provide all software required to access the RFID controllers, drawer openings, and database management.	1	$ 17,000.00	$ -	$ 17,000.00	6 Weeks from Completion of Stage 2
				Total	**$ 47,000.00**	

Terms: Stage 1: Net 30 days. Regardless of performance or SSI's to decision to proceed to stages 2 & 3.
Stage 2 & 3: 50% prior to starting stage 2 and the balance due upon succesful completion of stages 2 & 3.

Quote by: Brian Monahan

ESCORT MEMORY SYSTEMS (EMS), is a world-wide leader in the industrial automation field, offering solutions based on Radio Frequency Identification Systems (RFID) & Network Interface Modules.

SafetySyringes, Inc.™
1939 PALOMAR OAKS WAY, SUITE A, CARLSBAD, CA 92009
TEL 760.918.9908 • TOLL FREE 877.477.0776
FAX 760.918.0565 • www.safetysyringes.com
FED. ID.# 95-4305850

PURCHASE ORDER

P/O NUMBER	PAGE
100539-00	1

P/O DATE	ORDER TYPE	CHANGE/CANCEL
	Normal	Release

ORDERED FROM:
ESCORT MEMORY SYSTEMS
170 TECHNOLOGY CIRCLE

SCOTTS VALLEY CA 95066

SHIP TO:
SAFETY SYRINGES, INC.
1939 PALOMAR OAKS WAY
SUITE A
CARLSBAD CA 92009

BUYER	TERMS	ACKNOW-LEDGE	CONFIRM	FOB	SHIP VIA	COL/PPD
C ANDREASSON	NET 30 DAYS	No	No	N/A	N/A	

LINE NUMBER	QUANTITY ORDERED BLANKET TYPE	U/M	ITEM NUMBER DESCRIPTION/COMMENTS	PRICE/UNIT	REQUESTED DATE	EXTENDED PRICE
1	1	EA	QUOTE 011206A-1 STAGE 1 - PROOF OF CONCEPT DEVELOPMENT	5,000.0000		5,000.00
	1	EA	QUOTE 011206A STAGE 2 - DESIGN IMPLEMENTATION	25,000.0000		25,000.00
3	1	EA	QUOTE 011206A STAGE 3 - DESIGN INTEGRATION	17,000.0000		17,000.00

Total Ext Price = 47,000.00

COMMENTS:

APPROVED BY [signature] DATE 12/7/00

Safety Syringes, Inc.

CONFIDENTIAL

Initial Specification
RFID Med Error System

1.0 Mfg System

1.1. Mfg database requirements
- 1.1.1. RFID Serial Number, 14 characters (can associate with lookup table?)
- 1.1.2. NDC Code, 12 characters
- 1.1.3. Product Name, 15 characters
- 1.1.4. Expiration Date, 8 characters
- 1.1.5. Lot Number, 12 characters
- 1.1.6. Company Name, 10 characters

2.0 Hospital System

2.1. Hospital Database requirements
- 2.1.1. Patient Name (Last, First, MI)
- 2.1.2. Patient Address information (Street, City, State, Zip)
- 2.1.3. Insurance billing information
  - 2.1.3.1. Group ID
  - 2.1.3.2. Insurer
  - 2.1.3.3. Insurer phone
  - 2.1.3.4. Insurer address
- 2.1.4. Patient ID (Number assigned by hospital or clinic)
- 2.1.5. Product administered fields
  - 2.1.5.1. Date given
  - 2.1.5.2. Healthcare worker administering product
  - 2.1.5.3. Time given
  - 2.1.5.4. Product given (Type, Lot #, Exp Date)

3.0 Procedure

3.1. Manufacturer
- 3.1.1. Manufacturer codes product with section 1.0 information and locks
  - 3.1.1.1. Inventory control systems up to the manufacturer (must be compatible with standard database systems

3.1.2. Hospital

3.1.2.1. Receives product and scans for inventory control system (manual override available)

3.1.2.2. Dr. writes prescription and forwards to pharmacy (electronic)

3.1.2.3. Pharmacy pulls prescription and accumulates by patient (bagged or other)

3.1.2.3.1. Pharmacy scans for accuracy

3.1.2.3.2. Product delivered to floor storage cart

3.1.2.3.3. Inventory control system updated with product withdrawal

3.1.2.4. Nurse retrieves patient packet

3.1.2.4.1. Healthcare worker is identified via card or other

3.1.2.4.2. Patient information entered

3.1.2.4.3. Healthcare worker scans packet at bedside for go/no go

3.1.2.4.3.1. Healthcare worker initiates keypad at bedside for the scan to begin

3.1.2.4.3.2. No go alarm at bedside if match is not linked to pharmacy prescription

3.1.3. Reporting

3.1.3.1. Patient (key off patient in alpha order)

3.1.3.1.1. Patient/Patient ID

3.1.3.1.2. Products given to patient (Can be used for sub report for product type, lot #, etc.)

3.1.3.1.3. Date

3.1.3.1.4. Time

3.1.3.1.5. Healthcare worker administering product

3.1.3.2. Error report (key off patient in alpha order)

3.1.3.2.1. Patient/Patient ID

3.1.3.2.2. Date

3.1.3.2.3. Time

3.1.3.2.4. Healthcare worker

3.1.3.2.5. Product

SUMMARY OF DEAL POINTS
REGARDING
SAFETY SYRINGES, INC. AND ESCORT MEMORY SYSTEMS, INC.

Background

- Safety Syringes, Inc. ("SSI") specializes in the manufacture and distribution of syringe safety devices. SSI desires to develop and commercialize a system of tracking and preventing medication error at hospitals (the "SSI System").
- Escort Memory Systems, Inc. ("EMS") specializes in developing hardware and components relating to RFID technology, including the manufacture of readers, writers, and RFID tags.
- SSI and EMS desire to enter a relationship whereby (a) EMS would become SSI's preferred provider of hardware components, and engineering, delivery and installation services relating thereto, used in the SSI System, and (b) SSI would become EMS' exclusive purchaser of such components, engineering, delivery and installation supplied by EMS.

SSI's Responsibilities

- SSI would initiate relationships with hospitals for sales of the SSI System.
- SSI would conduct an initial survey of each hospital to determine such hospital's technical needs and specifications for implementation of the SSI System, including but not limited to the following specifications: _____.
- SSI would deliver each hospital's specifications to EMS, and coordinate with EMS in the engineering and testing of the SSI System suitable for such hospital.
- SSI would act as the prime contact with each hospital regarding the delivery and installation of the SSI System at each hospital's site.
- SSI would act as the prime contact with each hospital regarding any follow-up maintenance and repair of the SSI System.

EMS' Responsibilities

- EMS would coordinate with SSI upon SSI's delivery of each hospital's specifications to EMS, regarding the engineering of SSI Services suitable for such hospital. EMS would perform such engineering in accordance with the applicable specifications agreed upon by the parties.
- EMS would deliver and install the SSI Services at each applicable hospital, and in accordance with the hospital's specifications and the applicable specifications agreed upon by the parties.

- EMS would perform follow-up maintenance and repair of the SSI System at each hospital site, in accordance with the hospital's specifications and the applicable specifications agreed upon by the parties.
- With respect to the engineering, delivery, installation, maintenance and repair to be performed by EMS as described above, EMS would commit such components and services as requested by SSI or each applicable hospital from time to time, subject to maximum service levels agreed upon the parties.

Consideration

- SSI would pay to EMS _____ cents ($0.__) per tag supplied by EMS.
- SSI would pay to EMS such agreed upon prices for hardware components supplied by EMS in connection with the SSI Services.
- SSI would pay to EMS such agreed upon time-and-materials rates for all engineering, installation, maintenance and repair services performed by EMS in connection with the SSI Services.

Exclusivity

- EMS would not supply any party in the healthcare field, other than SSI, with readers, writers or tags that are the same or substantially similar to those used in connection with the SSI Services, or that are used for services that are the same or substantially similar to the SSI Services.
- SSI would not purchase from any party, other than EMS, readers, writers or tags for use in connection with the SSI Services; except that SSI shall have the right to purchase readers, writers or tags from up to five (5) third parties in the event EMS is unable to fulfill its engineering and delivery requirements agreed upon by the parties.

Third Parties

- Each of the parties may desire to subcontract aspects of its responsibilities to third parties, or to obtain the products or services of third parties to be used in connection with performing its obligations hereunder or supplying the SSI Services to hospitals (e.g. third party software manufacturers, for software to be supplied with components engineered by EMS, or third party distributors of EMS components). Each such third party relationship shall be subject to the approval of the other party. Both SSI and EMS shall remain primarily liable for their obligations under the agreement between them, notwithstanding the participation of any third parties.

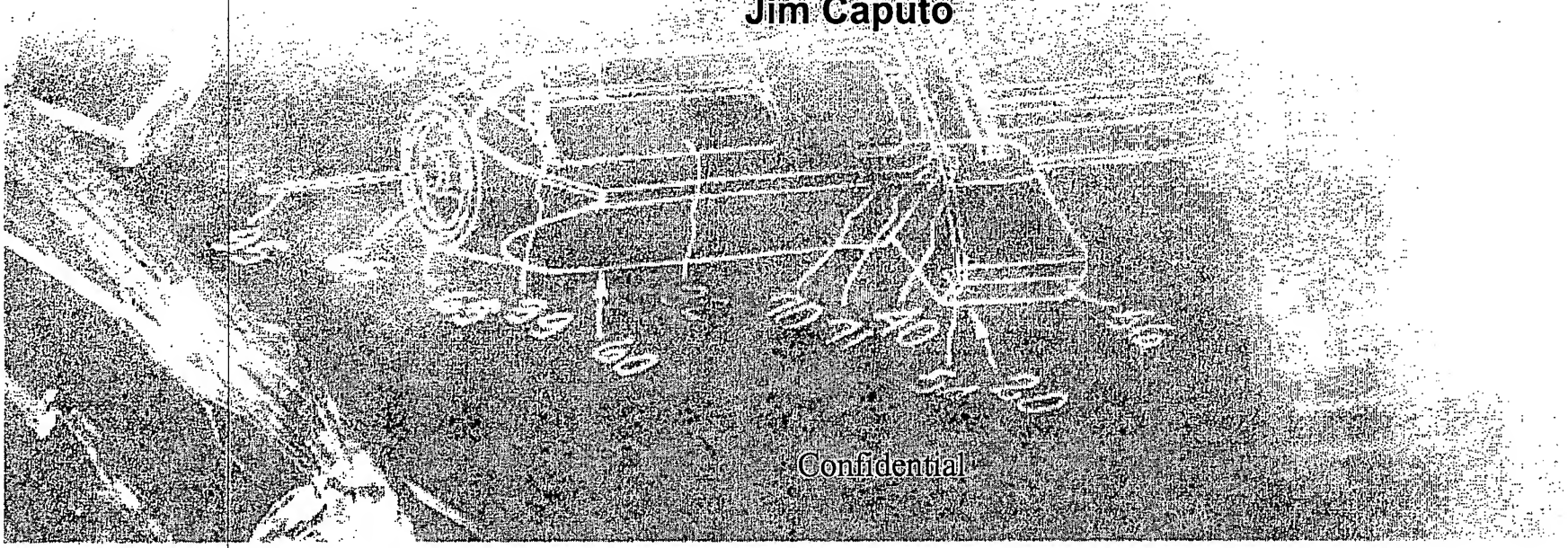
UltraSafe®
PRODUCTS & SERVICES

SafetySyringes, Inc.™

Board of Directors Meeting

Business Development RFID

Jim Caputo



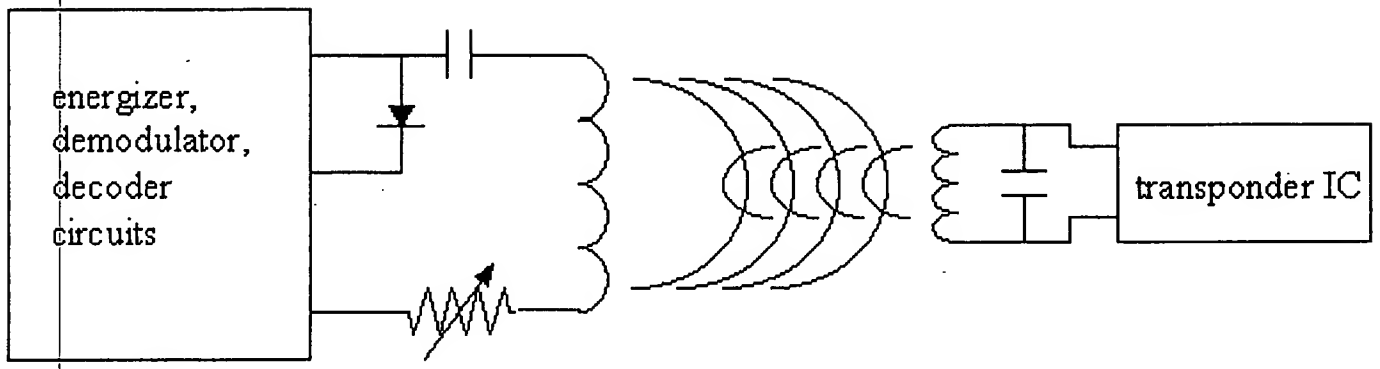
Confidential

UltraSafe
PRODUCTS & SERVICES

SafetySyringes, Inc.™

Business Development

RFID Technology – How it Works



RFID reader

RFID tag

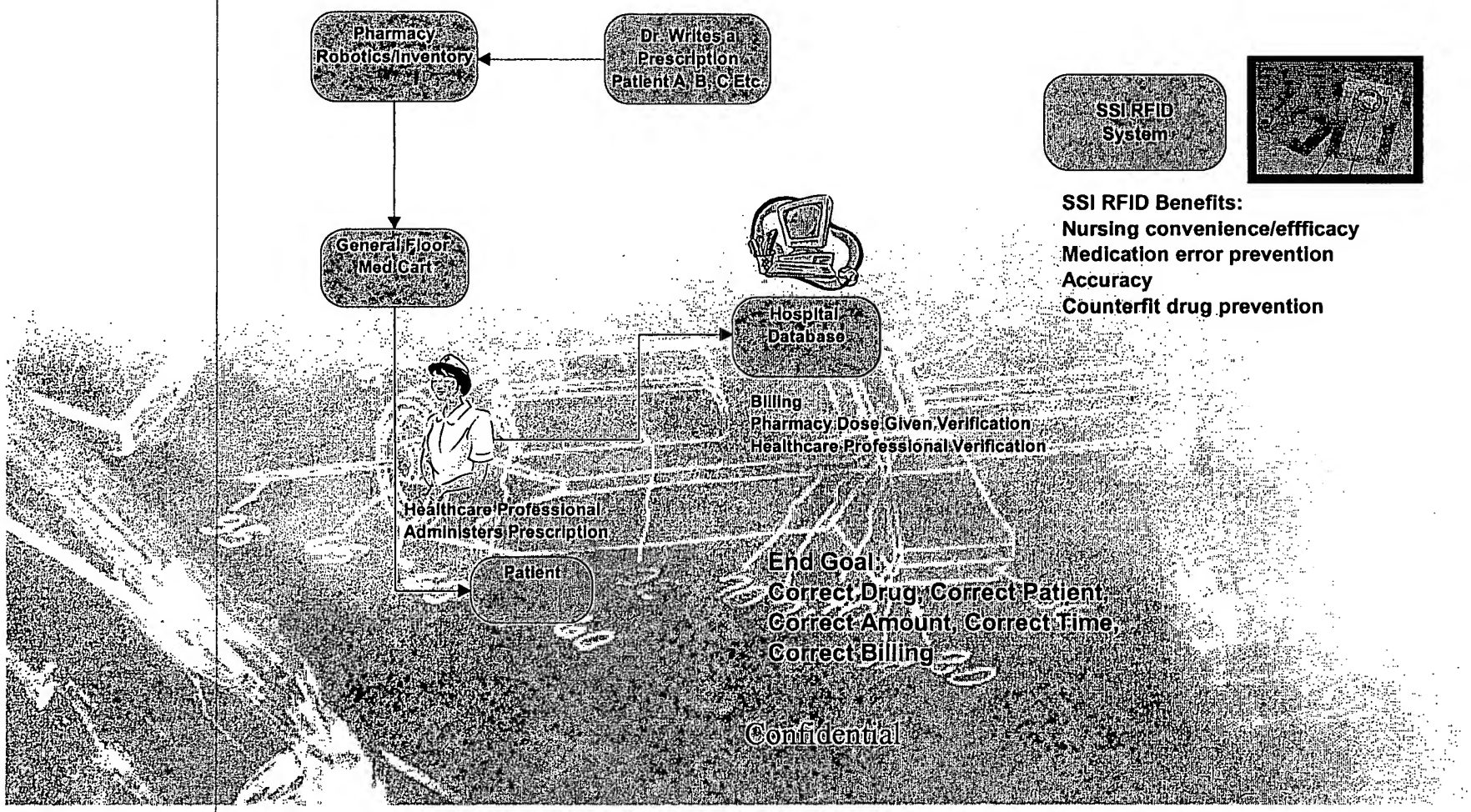
UltraSafe®
PRODUCTS & SERVICES

SafetySyringes, Inc.™

Business Development

RFID Technology

Hospital Scenario



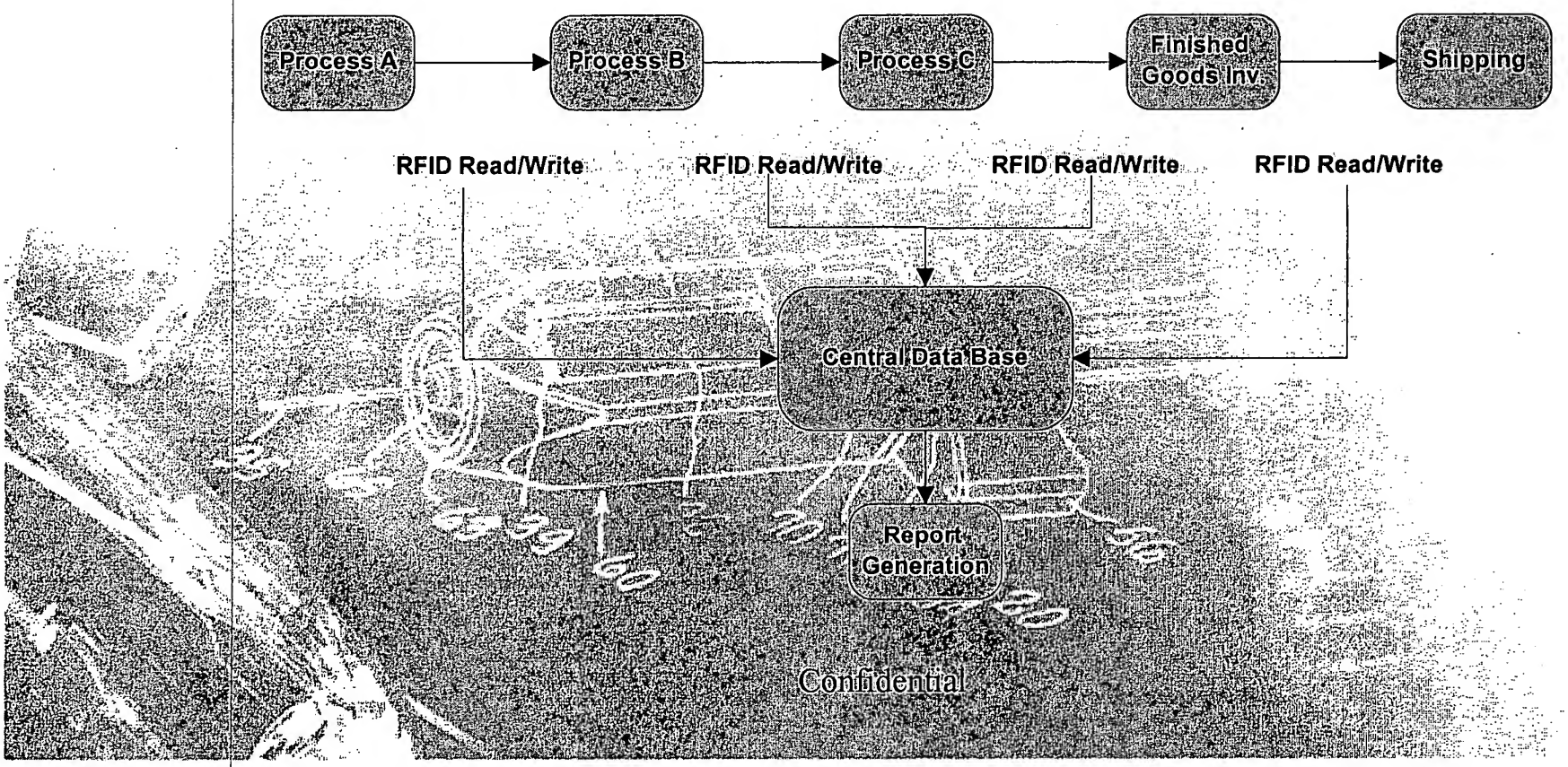
UltraSafe
PRODUCTS & SERVICES

SafetySyringes, Inc.™

Business Development

RFID Technology

Manufacturing Process Tracking Benefit



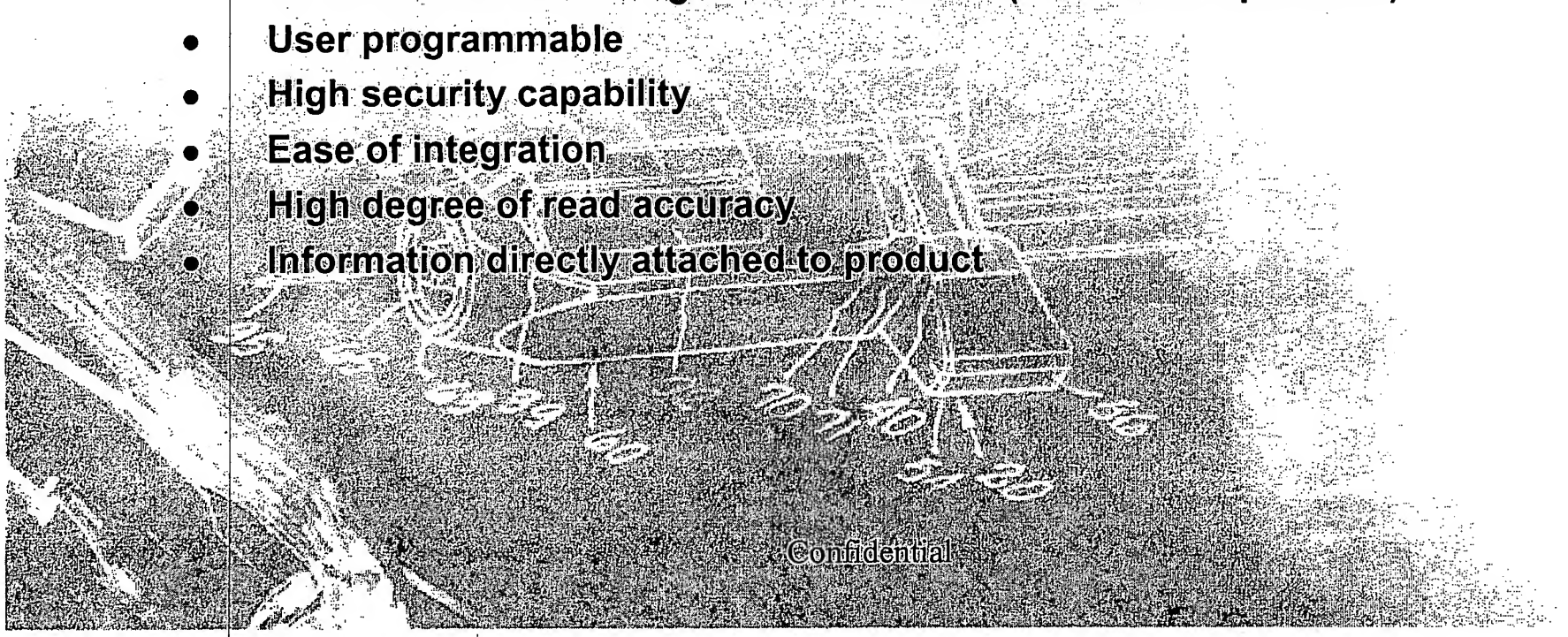
UltraSafe®
PRODUCTS & SERVICES

SafetySyringes, Inc.™

Business Development

RFID Advantages

- Ease of scanning, no line-of-sight for scanning necessary
- Any label orientation for scanning possible
- Insensitive to dirt and contamination
- Simultaneous scanning of several labels (multi label operation)
- User programmable
- High security capability
- Ease of integration
- High degree of read accuracy
- Information directly attached to product



UltraSafe®
PRODUCTS & SERVICES

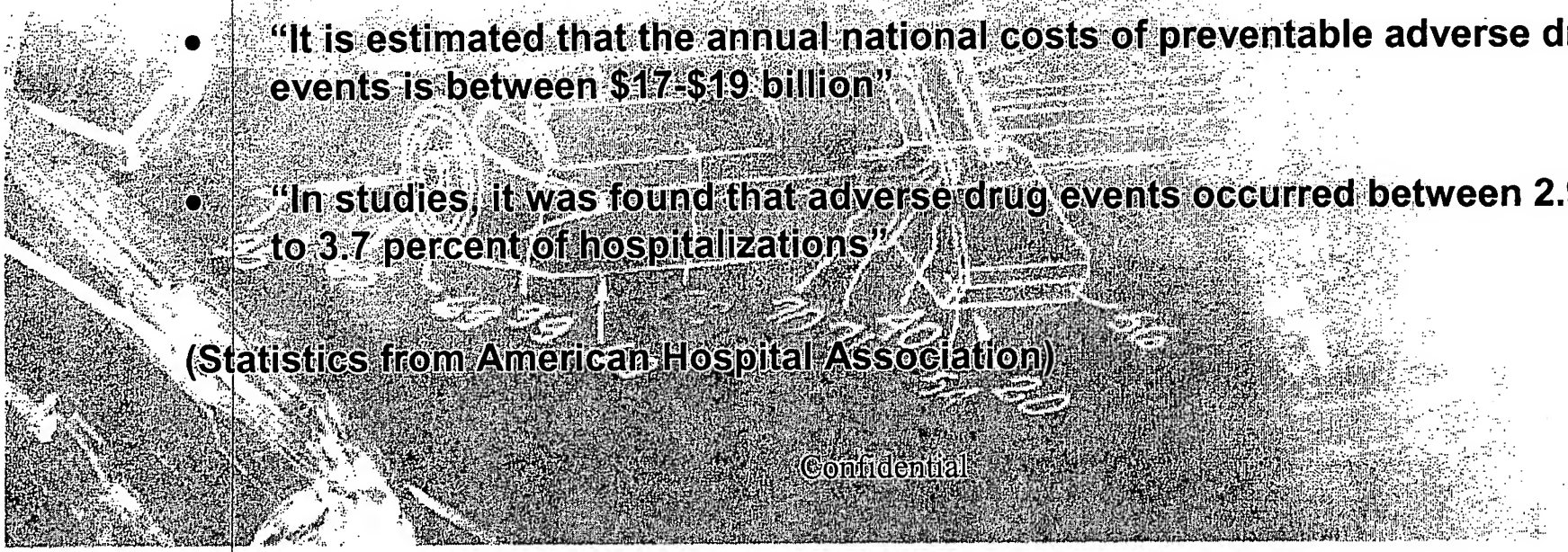
SafetySyringes, Inc.™

Business Development

MED ERROR STATISTICS

- "In two studies, it was estimated that medical errors account for between 44,000 and 98,000 US deaths each year."
- "Medication errors are the eights leading cause of death at a rate greater than motor vehicle accidents, breast cancer, or Aids."
- "It is estimated that the annual national costs of preventable adverse drug events is between $17-$19 billion"
- "In studies, it was found that adverse drug events occurred between 2.9 to 3.7 percent of hospitalizations"

(Statistics from American Hospital Association)



UltraSafe
PRODUCTS & SERVICES

SafetySyringes, Inc.

Board of Directors Meeting

Business Development – RFID Med Error System

Jim Caputo

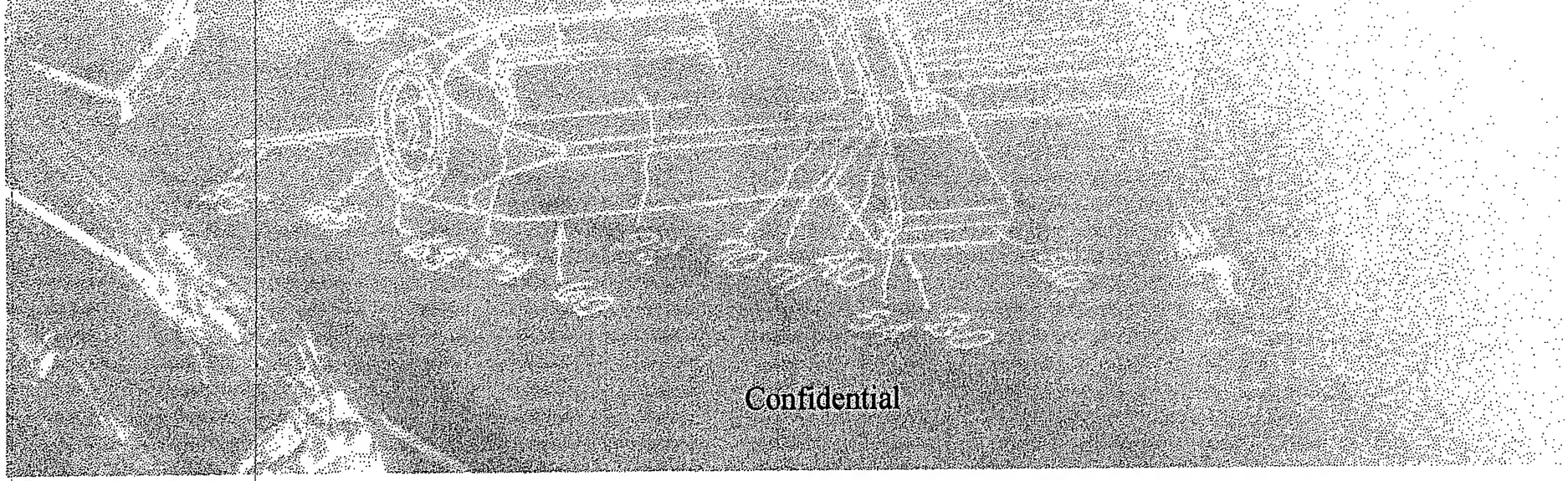
UltraSafe
PRODUCTS & SERVICES

SafetySyringes, Inc.

Board of Directors Meeting

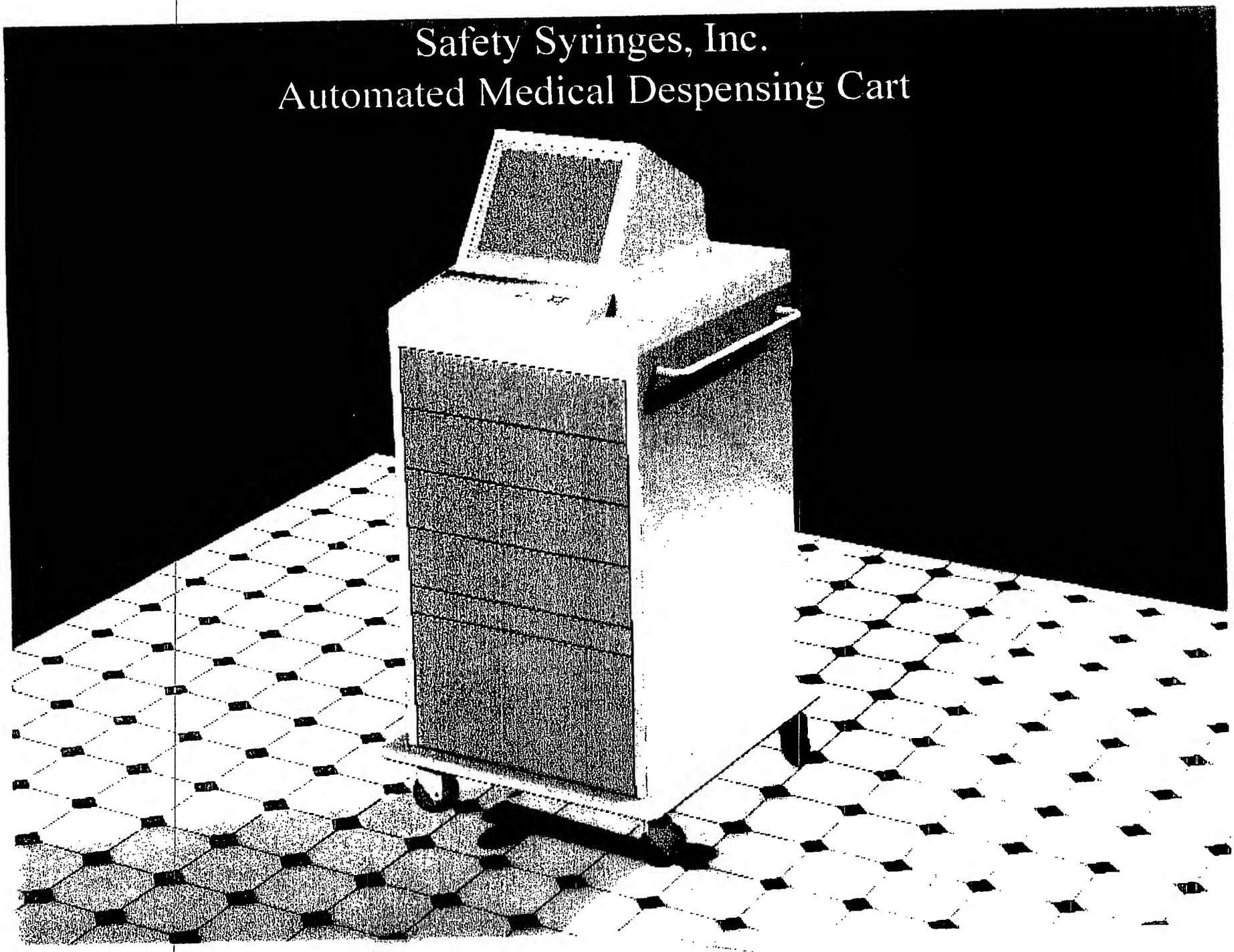
Business Development – RFID Med Error System

Jim Caputo



Confidential

Safety Syringes, Inc.
Automated Medical Despensing Cart



SSI MED ERROR SYSTEM

Pharmacy

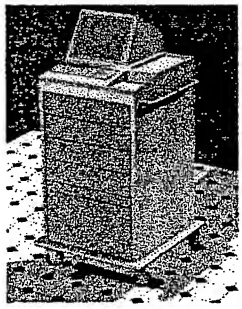
Plate/Tunnel Scanner

Reports
Prescriptions
Prescription Errors
Inventory Control Reports

Supply
To Cart

Returns to Pharmacy

Med Cart



Reports
Inventory Control (Min/Max)
Lot/Date Code Control

Un-Used Drugs from Bedside
Returned to Cart

To Bedside
Scanner

Patient Bedside

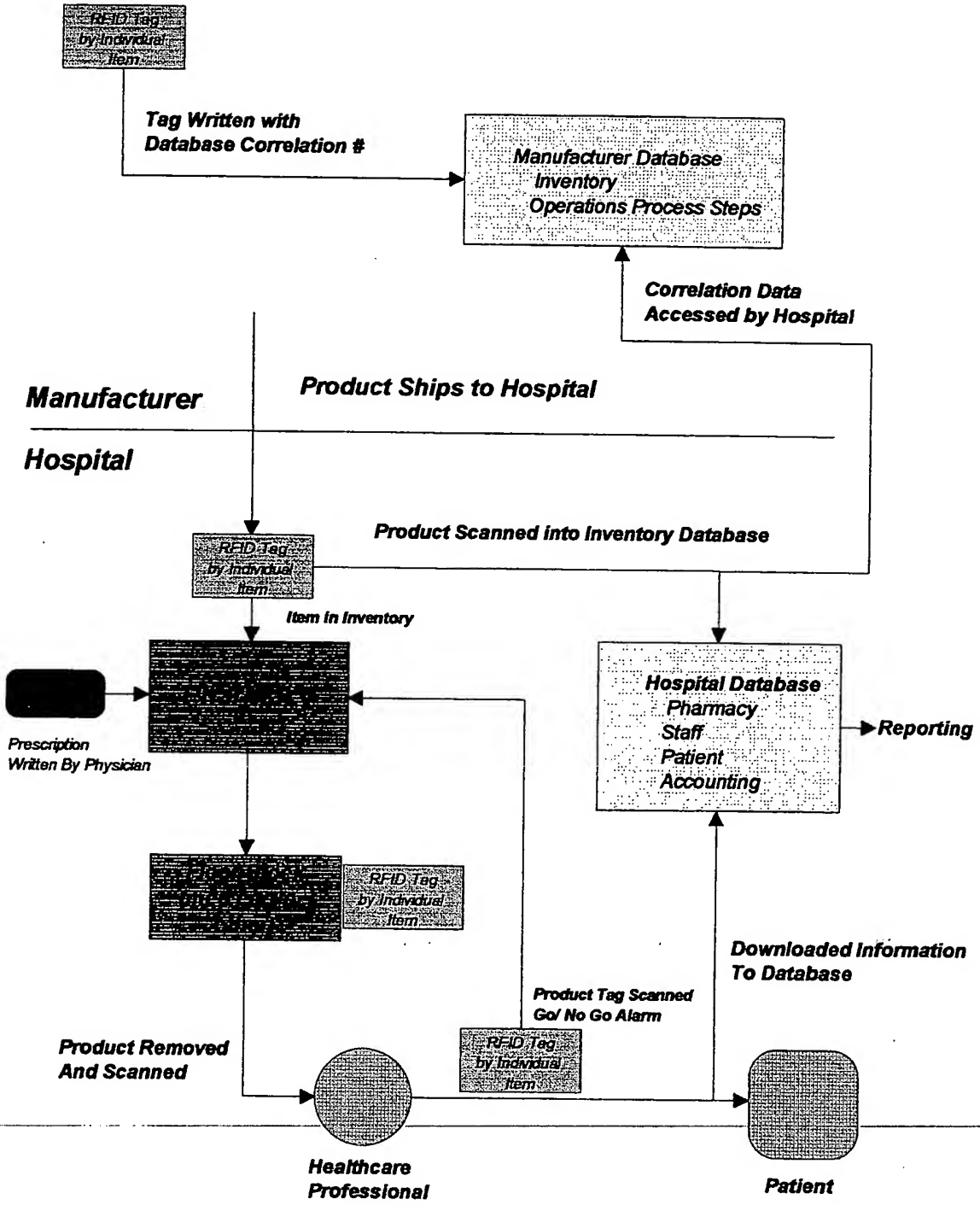
Reports
Patient/Drug Report
Nurses "MAR" Report
Med Error Report
Billing to Patient Transfer
Nurse/Drug Report

Date:

Medication Error System

Safety Syringes, Inc.

Jim Caputo



SafetySyringes, Inc.™

MFG Database Form Format 1of 1

Product RFID Form

RFID Serial #

NDC Code

Product Name

Expiration Date

Lot Number

Company

Product Code

Legend

Scanned

Input

HOSPITAL DATABASE 1 of 3

Admissions Form

NAME

Last First MI

Address City State

Zip Code Phone Patient ID

Insurance Provider

Name Group ID

Address City State

Zip Code Phone

SafetySyringes, Inc.™

HOSPITAL DATABASE 2 of 3

Pharmacy Database

Prescription # _____ Doctor _____

Patient Name (Last) _____ Patient ID _____

Prescription Detail

Med _____ Frequency _____ Duration _____

Med _____ Frequency _____ Duration _____

Med _____ Frequency _____ Duration _____

Med _____ Frequency _____ Duration _____

Med _____ Frequency _____ Duration _____

HOSPITAL DATABASE 3 of 3

Patient History Form

Patient ID _____ Name (Last) _____

Med Given _____ Time _____ Date _____ Lot # _____ By _____

Med Given _____ Time _____ Date _____ Lot # _____ By _____

Med Given _____ Time _____ Date _____ Lot # _____ By _____

Med Given _____ Time _____ Date _____ Lot # _____ By _____

Med Given _____ Time _____ Date _____ Lot # _____ By _____

NEXTWERK

PROPOSAL

SAFETY SYRINGES INC. DEMONSTRATION SOFTWARE

Prepared By: Mubashir A. Mian

BACKGROUND

This proposal is developed for Safety Syringes Inc., for the design and development of an exploratory prototype system. We thank you for the opportunity of proposing our development services and look forward to working with SSI on this project.

OBJECTIVES

The objectives of this effort are:

1) Provide working demonstration software to SSI.

2) The Software will demonstrate the core functionality of the system.

3) The Software will demonstrate to the SSI clients that the system is capable of delivering the required functionality for proposed concepts.

OUR CORE PROPOSAL

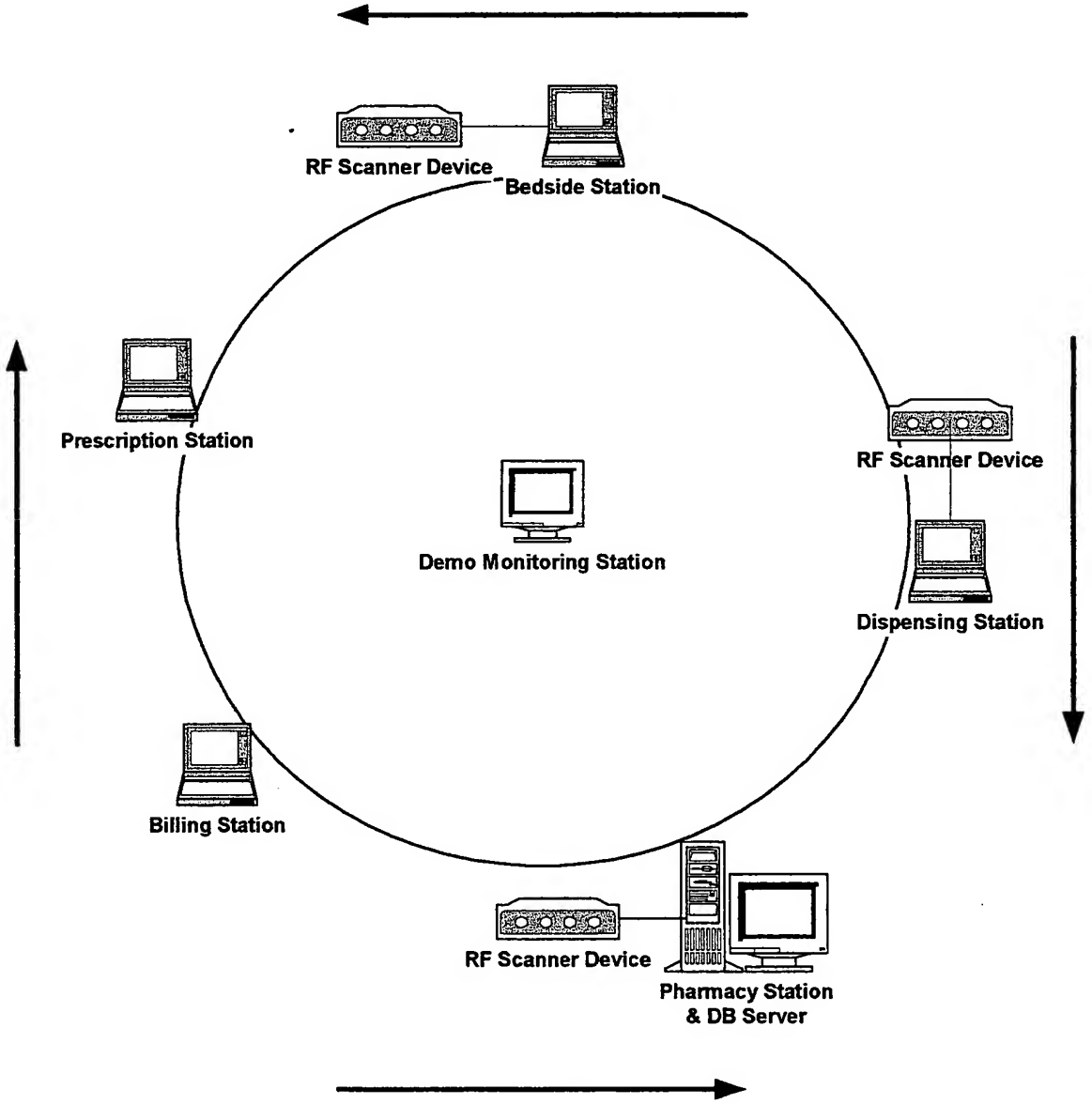
We propose to design, develop and deliver the demonstration software system as a turnkey solution. NEXTWERK has the expertise and market know-how to exceed your needs and expectations.

Exploratory prototypes require special treatment, in that they are high priority projects where specifications and requirements change from moment to moment. Every new build gives people newer ideas and these ideas require newer builds. This cycle goes on at a very fast pace until a consensus is built at the receiving end. We are one of the very few companies in Southern California who has a proven track record for this type of environment.

We offer you a rock solid team with a proven track record. Our engineers and developers are used to working in a fast paced development.

ARCHITECTURE OF THE PROPOSED SYSTEM

Our goal is to develop a robust client server demo application that will intelligently automate the Hospital drugs inventory system. System will consist of six different types of workstations with different functionality and a server. The over all system architecture is shown in the following picture.



SYSTEM FEATURES.

As mentioned earlier the application will consist of six client stations and a server. Each client station will have different functionality and features, their respected features are given below.

FEATURES OF BEDSIDE STATION:

1) Health worker identification using login/password or pin number.
2) Enter patient general Information.
3) View patient general information.
4) Enter patient medication information.
5) View and print patient MAR(Medication administration record).
6) Scan drug packet for go/no go (drug and patient association).
7) No go alarm.

FEATURES OF DISPENSING STATION:

1) Health worker identification using login/password or pin number.
2) View patient general information.
3) Search and view patient prescription information.
4) View patient MAR(Medication administration record).
5) Scan drug packet for accuracy and association with selected patient.
6) Hospital's inventory updating with drug withdrawal.
7) Updating the selected patient bill with drug withdrawal.
8) Hospital's inventory updating with drug return.
9) Updating the selected patient bill with drug return.
10) Drug/stock transaction tracking.
11) View dispensing station stock status.

FEATURES OF PRESCRIPTION STATION:

1) Doctor identification using login/password or pin number.
2) Search and view patient information.
3) Enter prescription for patient information.
4) View patient MAR(Medication administration record).
5) Forward prescription to pharmacy station.
6) View reports

FEATURES OF BILLING STATION:

1) Staff identification using login/password or pin number.
2) Search and view patient information.
3) View patient MAR(Medication administration record).
4) View patient billing history.
5) View reports

FEATURES OF PHARMACY STATION:

1) Staff identification using login/password or pin number.
2) Pharmacist approval of all Prescriptions prior to the release to prescription station.
3) Search and view drugs quantity information.
4) View stock status.
5) Add new drugs in inventory.
6) Associate RF tag with drug.
7) Remove drugs from inventory
8) Pharmacy station will also work as Database server.
9) View reports

FEATURES OF DEMONSTRATION MONITORING STATION:

We propose that a multimedia system be added to the demonstration lineup. This system will basically show in real time what events are occurring at each station. Later on, pre recorded video can be incorporated along with animations; and the system will be able to self demonstrate the SSI concepts and ideas.

In our budget, we have itemized this module for your convenience.

For now, we propose a basic system, which will provide the following features:

1) Graphically illustrate what each machine is doing (in almost real time.)

2) Show movement of patient billing data.

3) Show movement of inventory between different stations.

4) Provide a composite view (of the running demo) so that potential customers can stand in front of the system and understand the whole concept visually.

5) Where applicable, show movements of inventory and customer data as animations.

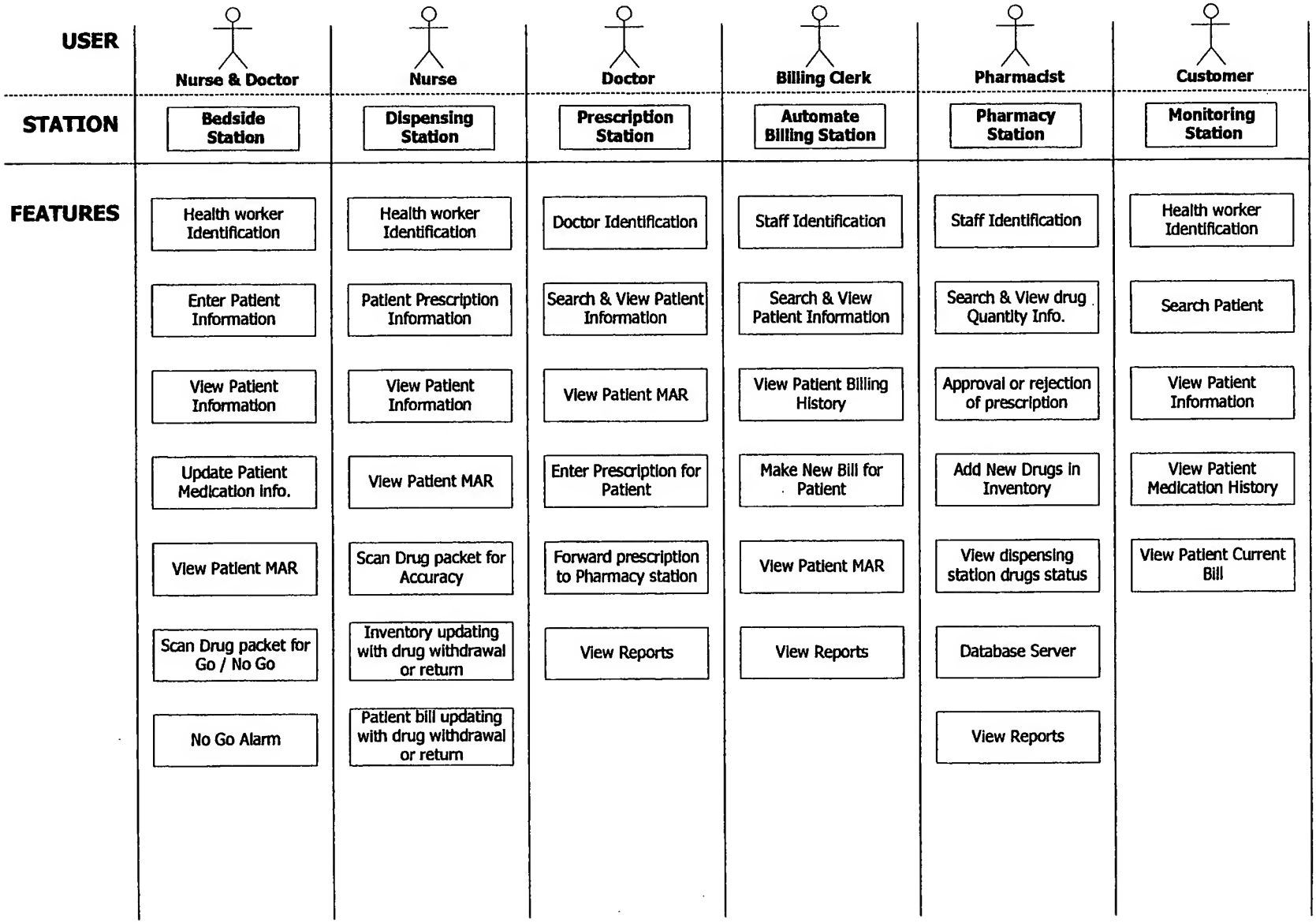
GENERAL FEATURES

1) All the inventory and billing information will be stored and updated by the system automatically. For this the pharmacy station will also work as central information repository system and database server.

2) Ability to store general information related to each drug such as manufacturer name, expiry date and etc.

3) Ability to produce different kinds of inventory and billing reports

4) Using monitoring station any one can view the patient information and MAR (Medical Administration Record).


USER
Nurse & Doctor
Nurse
Doctor
Billing Clerk
Pharmacist
Customer
STATION
Bedside Station
Dispensing Station
Prescription Station
Automate Billing Station
Pharmacy Station
Monitoring Station
FEATURES
Health worker Identification
Enter Patient Information
View Patient Information
Update Patient Medication info.
View Patient MAR
Scan Drug packet for Go / No Go
No Go Alarm
Health worker Identification
Patient Prescription Information
View Patient Information
View Patient MAR
Scan Drug packet for Accuracy
Inventory updating with drug withdrawal or return
Patient bill updating with drug withdrawal or return
Doctor Identification
Search & View Patient Information
View Patient MAR
Enter Prescription for Patient
Forward prescription to Pharmacy station
View Reports
Staff Identification
Search & View Patient Information
View Patient Billing History
Make New Bill for Patient
View Patient MAR
View Reports
Staff Identification
Search & View drug Quantity Info.
Approval or rejection of prescription
Add New Drugs in Inventory
View dispensing station drugs status
Database Server
View Reports
Health worker Identification
Search Patient
View Patient Information
View Patient Medication History
View Patient Current Bill

DEVELOPMENT METHODOLOGY

We will work closely with the SSI appointed engineers and jointly develop the application modules. On approval, we will setup a web based collaboration environment where all the concerned staff from SSI and NEXTWERK will collaborate freely.

We will start by finalizing the User Requirements of each module. Once the Requirements are finalized, we will seek formal approval from SSI. Once you approve the requirements document, it will become the basis on which the final prototype will be approved.

We will take the time box approach to building this software. In this approach, we will plan delivery days on a short frequency (weekly) and deliver the latest builds as planned. This method is not so efficient but it keeps the developers on the same page with the customers.

After 3-4 prototype builds and subsequent approvals, the system will be complete for beta delivery.

The Beta delivery will be demonstrated to the SSI management at the Carlsbad office. If the Beta fulfills all requirements (as set forth in the requirements document) the project will be considered completely developed and delivered.

BUDGET

At this time with known specifications, our effort estimate is within 20% accuracy range. This means that the maximum planned deviation should not exceed 20% in either direction.

TIME ESTIMATE

DESCRIPTION	CALENDER WEEKS
Requirements Document	1-2 weeks
Approval of Requirements	1 week
Development of Beta	4 weeks
Beta to Final	2 Days on approval.

Please note that we will take between 5 and 6 weeks to develop the software. We have factored one week to approve the requirements – which is totally in control of SSI. Essentially the timely delivery of this system depends on our ability to develop within 6 weeks and your ability to approve the final requirements within 1 week.

MONEY ESTIMATE

DESCRIPTION	US$
Station modules as described above (minus Monitoring Station)	12,500
Demo Monitoring Station	3,500

TERMS

50% advance on approval of this proposal, and 50% on successful delivery of the modules.

Please note that specialized RF scanning equipment and SDKs (software development kits, if applicable) will be client-provided. Our budget does not include investing in specialized hardware or software for this project.

NEXT STEP

The next step is project approval.

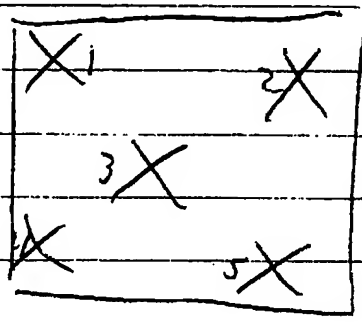
...end...

EMS Experiment

J CAPLAN

Plate Reader: 11 3/4 x 13 3/4 CONFIDENTIAL

Experiment #1



6 sec read time out / 3 times each
Height from plate 5/8
PLATE

X - Read Location
Sample - 5 ea bagged prod

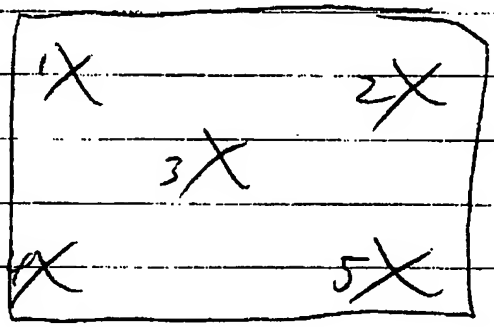
1 - 5/5 read; 5/5 read 5/5 read
2 - 4/5 read; 5/5 read 5/5 read
3 - 5/5 read; 5/5 read 5/5 read
4 - 5/5 read; 5/5 read; 5/5 read
5 - 5/5 read; 5/5 read 5/5 read

Note: reads complete in 1 sec or less
Units were stacked in random orientation
(Bagged with label at top of bag)

Ems Demo

Experiment #2

CONFIDENTIAL



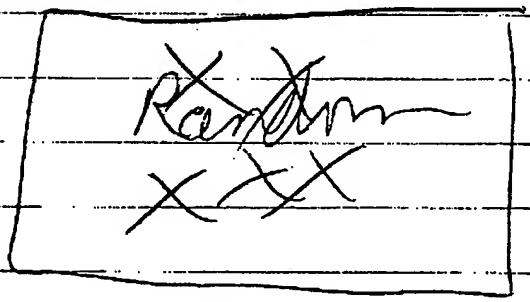
2" distance from plate
X = Locations
Samples: 5 ea
Cragged units
tag on top of bag

6 sec read
3 reads each Location

1	5/5	5/5	5/5
2	4/5	4/5	4/5
3	5/5	5/5	5/5
4	4/5	4/5	4/5
5	5/5	5/5	5/5

< 1 sec all reads complete

Exp. #3



2" distance from plate
X - Location of each unit
Samples 1 ea
3 reads, 6 sec/read

5/5	5/5	5/5

< 1 sec all reads were complete

APPLICATION EVALUATION TEST REPORT FORM

Originator:	M. Gaskill	**Report Written By:**	J. Coronado	**AER No:**	083
Customer:	Safety Syringe	**Report Revision:**	1	**Status:**	Open

(Refer to Application Request Form for Application Description and Requirements)

TEST METHOD Describe products used, modifications, software, hardware, and other set details.

Test Hardware:	Test Software:	Items Under Test:
1. LRP-20 Rdr/Wrtr	1. Antenna Tune V.1.5A	1. LRP-L1331 Tags
2. Safety Syringes	2. WinDemo V.0.1F	
3. Desktop PC		

Stage One – Proof Of Concept

TEST #1: Single 14" X 14" Smart Drawer

- Create a smart drawer capable of reading tagged medical supplies.
- Incorporate the use of active and passive coils as needed.
- Using Antenna Tune, test for readability of LRP-L1331 tags in all orientations.
- Using WinDemo, test for multiple tags in the field.

TEST #2: Dual 6" X 8" Smart Cell Compartments

-

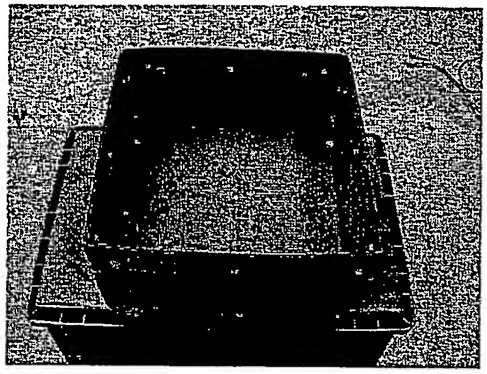
TEST CRITERIA Describe the parameters that determine if the implementation is a success such as; range, speed, tag orientations, etc.

Criteria: Prototype system must be capable of reading all tags in the drawer and meet all the requirements set forth in the stage one proof of concept document.

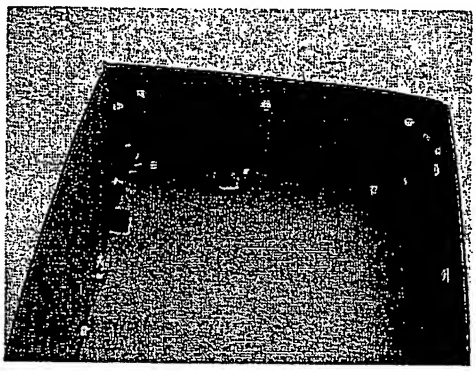
TEST RESULTS AND OBSERVATIONS Provide test data.

TEST #1: Single 14" X 14" Smart Drawer

A.)



B.)



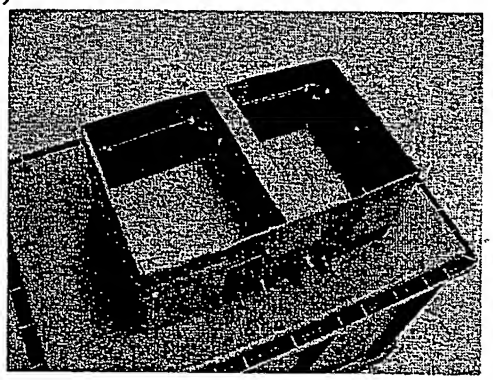
SUMMARY:

In this phase a 14" X 14" smart drawer was created. The smart drawer consisted of two active coils each resonated at 13.56Mhz, and a toggle switch. The switch is used to toggle between the two coils and acts as a crude multiplexer. Only one coil is active at a time. When one coil is on, the other coil loop is physically opened through the switch. Opening one loop while the other is on ensures that the opened loop does not interfere with the tuning of the closed active loop. If a tag is not seen in a given orientation, the switch is thrown and the opened coil is closed and radiates a different RF pattern to increase the probability of reading the tag. Quickly toggling or multiplexing between the two coils will make this transparent to the end user.

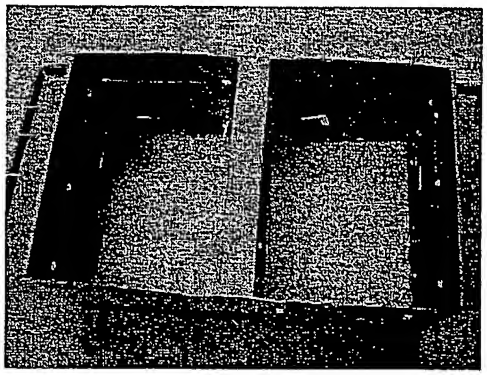
This 14"x14" smart drawer works very well when the tag is adhered flat on the object. The more parallel the tag is to the either coil, the better the readability of said tag. However, when the LRP-L1331 tag is wrapped around the syringe itself, the smart drawer antenna cannot read the tag. This is because the tags' surface area is reduced. Essentially the tag is made even smaller and the flux radiating from the antenna is not dense enough to cut through the tag windings.

TEST #2: Dual 6" X 8" Smart Cell Compartments (4" DEEP)

A.)



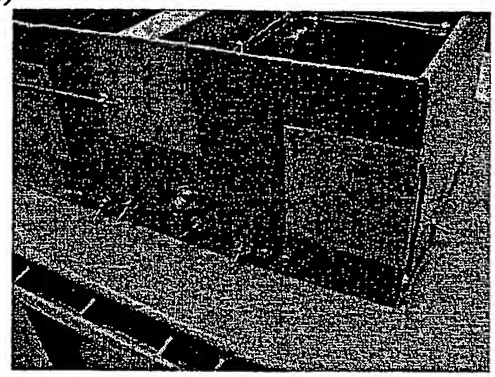
B.)



Cont. Next Page

Test #2 Cont.

C.)



SUMMARY:

In this phase a 6" X 8" two cell campartment was created. Again, each cell consists of two active coils resonated at 13.56Mhz. Two toggle switches were used in this design. One switch toggles between the two coils in each cell and the other switch toggles between the two cells themselves. Only one cell and only one coil in each cell is on at any given time. This ensures that there is no interference between coils and cells. If a tag is not seen in a given orientation, the switches are thrown and the opened coil is closed and radiates a different RF pattern to increase the probability of reading the tag. Quickly toggling or multiplexing between the two coils will make this transparent to the end user.

This 6" X 8" dual compartment antenna works extremely well in all orientations. The smaller cell size helps to generate a more dense RF field and therefore reads the tags wrapped around the syringes easily.

TEST CONCLUSION Reviewers comments and suggestions

Attach lab notes, photos, sketches and samples when applicable

Completed By: J. Coronado **Date:** _____

Med Error System
Safety Syringes, Inc.

Rev A
01-02-02

Requirements Document – Demo System

1.0 Pharmacy Station

1.1 User password/pin access (production unit could have fingerprint ID)

1.2 Scan incoming drug (box of 25 max)

1.3 Scan outgoing drug to Med Station

1.4 Input/receive patient information from database (form)

1.5 Input/receive prescriptions from database (form)

1.6 Prescription approval to send to med station

1.7 Pharmacy Station Hardware

1.7.1 Pentium 4 computer (controller for all stations)

1.7.2 EMS reader/writer (Tunnel?)

1.7.3 Ink Jet Printer

2.0 <u>Med Cart</u>

2.1 Maximum dimensions: (Driven by pocket/drawer size)

2.1.1 Height: 42 Inches (not including screen height)

2.1.2 Width: 24 Inches

2.1.3 Length: 26 Inches

2.2 Hardware:

2.2.1 Touch screen - 15" preferred

2.2.2 Keyboard

2.2.3 Drawers to be spring loaded to open 2" (approximate) when initiated by software.

2.2.4 Individual pocket will be correlated to RFID Tag to initiate a light for proper drug to be removed.

2.2.5 Manual close to latch.

2.2.6 System to read upon drawer close

2.2.6.1 Inventory action/reconciliation to be initiated upon drawer Closing.

2.2.6.2 Alarm if drawer not closed

2.2.6.3 Alarm if reconciliation yields incorrect results

2.2.7 Reporting ability on screen at this station

2.2.7.1 Printed report at pharmacy station unit

2.3 Number of active drawers: 3

2.3.1 Additional mock drawers up to 8 maximum (non usable for RFID)

2.4 Number of pockets per drawer: 8

2.4.1 Pocket Size Maximum Dimension: 8"x 8"

2.4.2 Pocket interior to conceal antennas/hardware

2.5 Med Station features

2.5.1 User password/pin access (production unit could have fingerprint ID)

2.5.2 View patient list (touch screen)

2.5.3 View patient prescription list (touch screen)

2.5.4 View Patient MAR History (touch screen)

2.5.5 Initiate drug removal per prescription (touch screen)

2.5.6 Initiate drug returns to return drawer

2.5.6.1 Automated reconciliation from pharmacy

2.5.7 Automated inventory reconciliation of drugs

2.5.8 Initiate drug/patient link on reader/writer on unit upon retrieval from drawer.

2.5.9 Initiate drug returns to return drawer

2.5.10 View Med Cart drug dispensing (on-screen/hardcopy reports by patient, drug, date, time, etc via touch screen)

2.5.11 View station stock status (Min/Max system trigger for pharmacy restocking)

3.0 Bedside Station

3.1.1 User password/pin access (production unit could have fingerprint ID)

3.1.2 Scanned drug/patient go/nogo administration; assume patient ID card for identifier (alarm if no go; visual on screen if go)

3.1.3 Automated patient/drug/billing update upon scan

3.1.4 View patient listing/general information

3.1.5 View patient MAR (option to send to printer)

3.1.6 Bedside Station Hardware

3.1.6.1 EMS flat plate reader/writer

3.1.6.2 Touch screen – 15" preferred

3.1.6.3 Cart to hold screen/reader/writer

SafetySyringes, Inc.™

Screen Outline

I. Med Station

a. Log-In Screen
   i. SSI Logo
   ii. Pin # Field

b. Activity Screen
   i. Drug retrieval for a patient
      1. Patient listing fields
         a. Prescriptions by Patient/frequency/Dr.'s name etc.
         b. Drug location on screen with coordinates
         c. Drug removal from cart reconciliation (scanned when drawer is shut)
         d. Drug association with Patient (after drug is removed and placed on scanner)
      2. Unused drug return from a patient bedside
         a. Drugs returned fields (scanned)
      3. Med Station restocking
         a. Item fields for restocking cart (scanned)
      4. Reports
         a. MAR report (by patient/Nurse)
         b. Drugs administered
            i. Per time frame
            ii. Per patient
            iii. Per doctor
         c. Prescriptions/filled and non-filled
         d. Errors report
            i. Patient bedside
            ii. Retrieval errors
            iii. Stocking errors (items from pharmacy don't match items received by med station etc.)

II. Pharmacy Read Station

a. Log-In Screen
   i. SSI Logo
   ii. Pin # Field

b. Activity Screen
   i. Drugs received and added to inventory database (scanned)
   ii. Drugs leaving pharmacy going to med cart (scanned)
   iii. Report generation
      1. Restocking med station report
      2. Errors report
         a.

SafetySyringes, Inc.™

b. Stocking errors (items from pharmacy don't match items received by med station etc.)

III. Patient Read Station

a. Log-In Screen
    i. SSI Logo
    ii. Pin # Field
b. Activity Screen
    i. Administration to patient (scanned)
        1. GO/No-GO Screen after scan
    ii. Report generation
        1. Incorrect administration
        2. MAR report (by patient/Nurse)
        3. Drugs administered
            a. Per time frame
            b. Per patient
            c. Per doctor

Meeting Agenda
EMS/SSI
01/17/02

SSI
Med Error System

1. Schedule Review

2. Med Cart Design

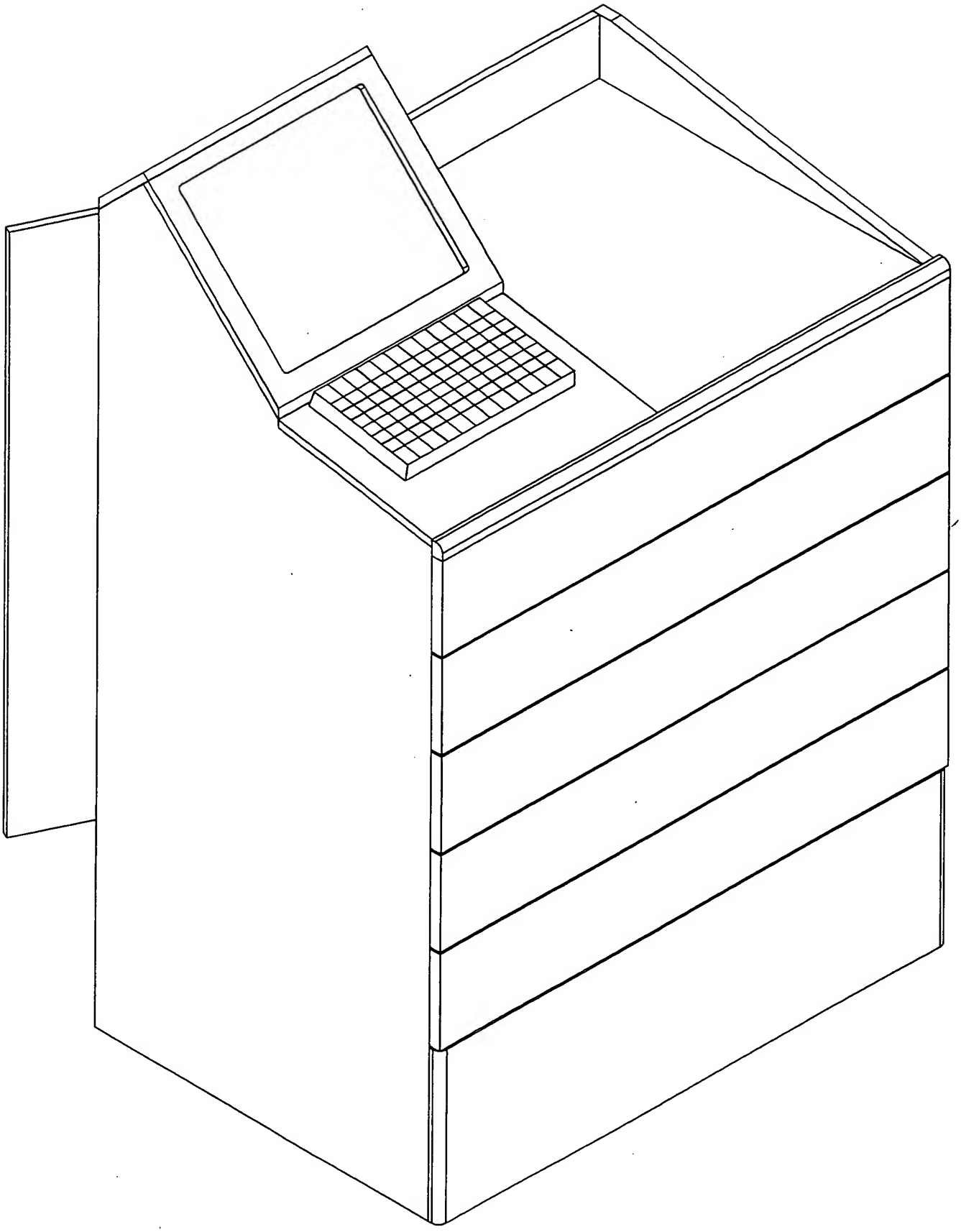
    a. Software Integration/Issues
        i. Command Structure of hardware system
        ii. EMS Reader

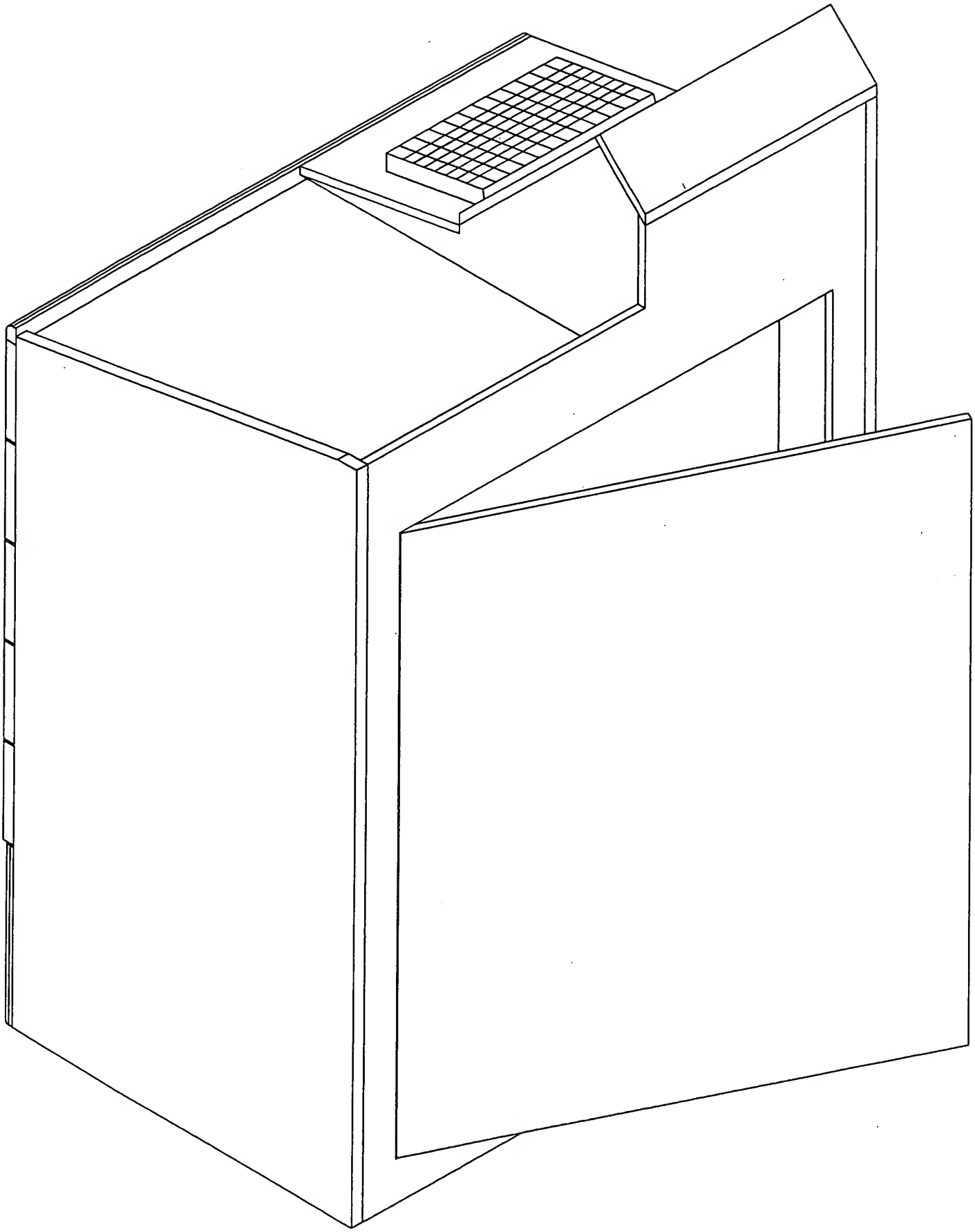
3. Patient Station Design
    a. Options
    b. Read Capability of EMS Flat Plate Reader

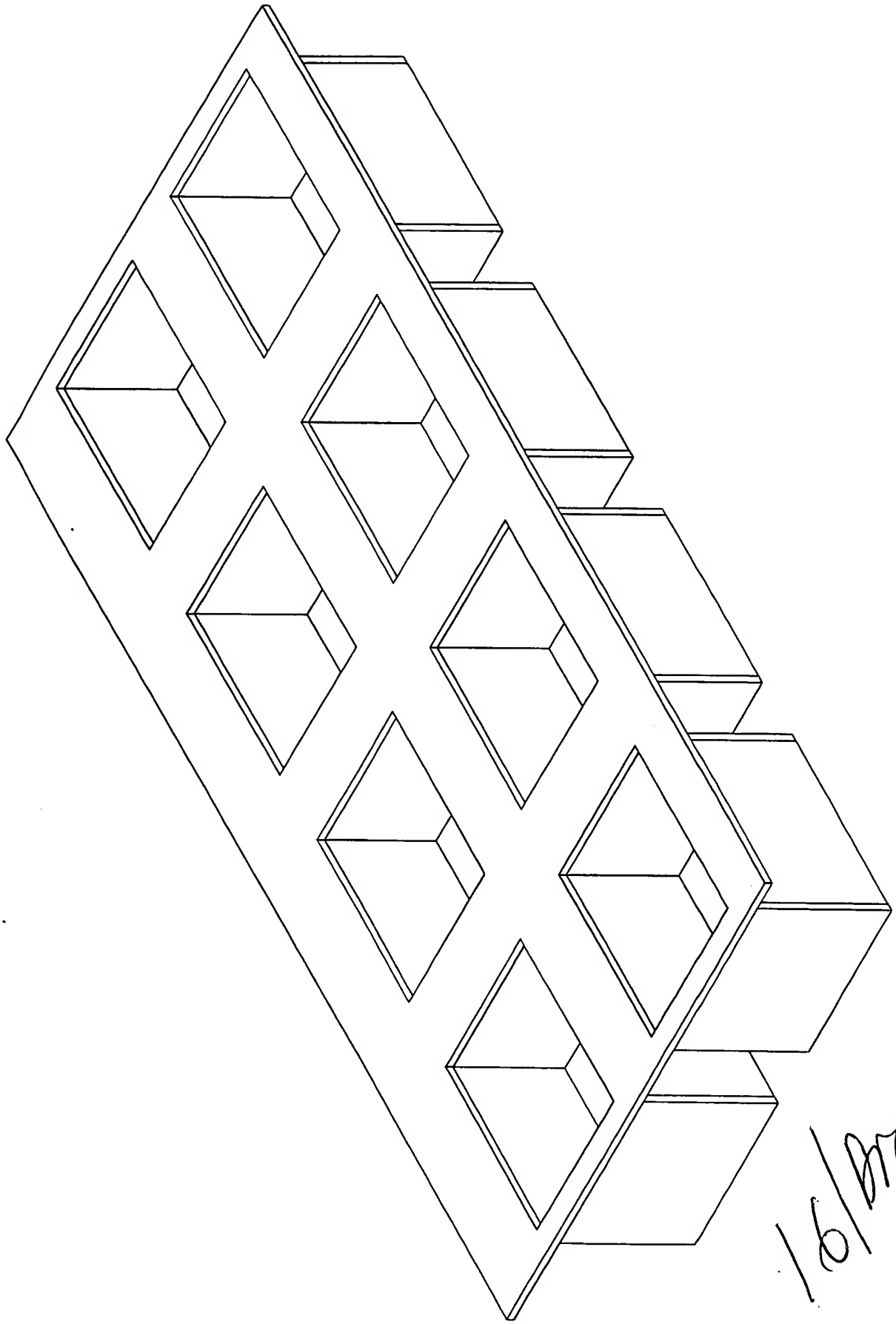
4. Pharmacy Station
    a. Options
    b. Read Capability of EMS Flat Plate or Tunnel System

5. Project Issues

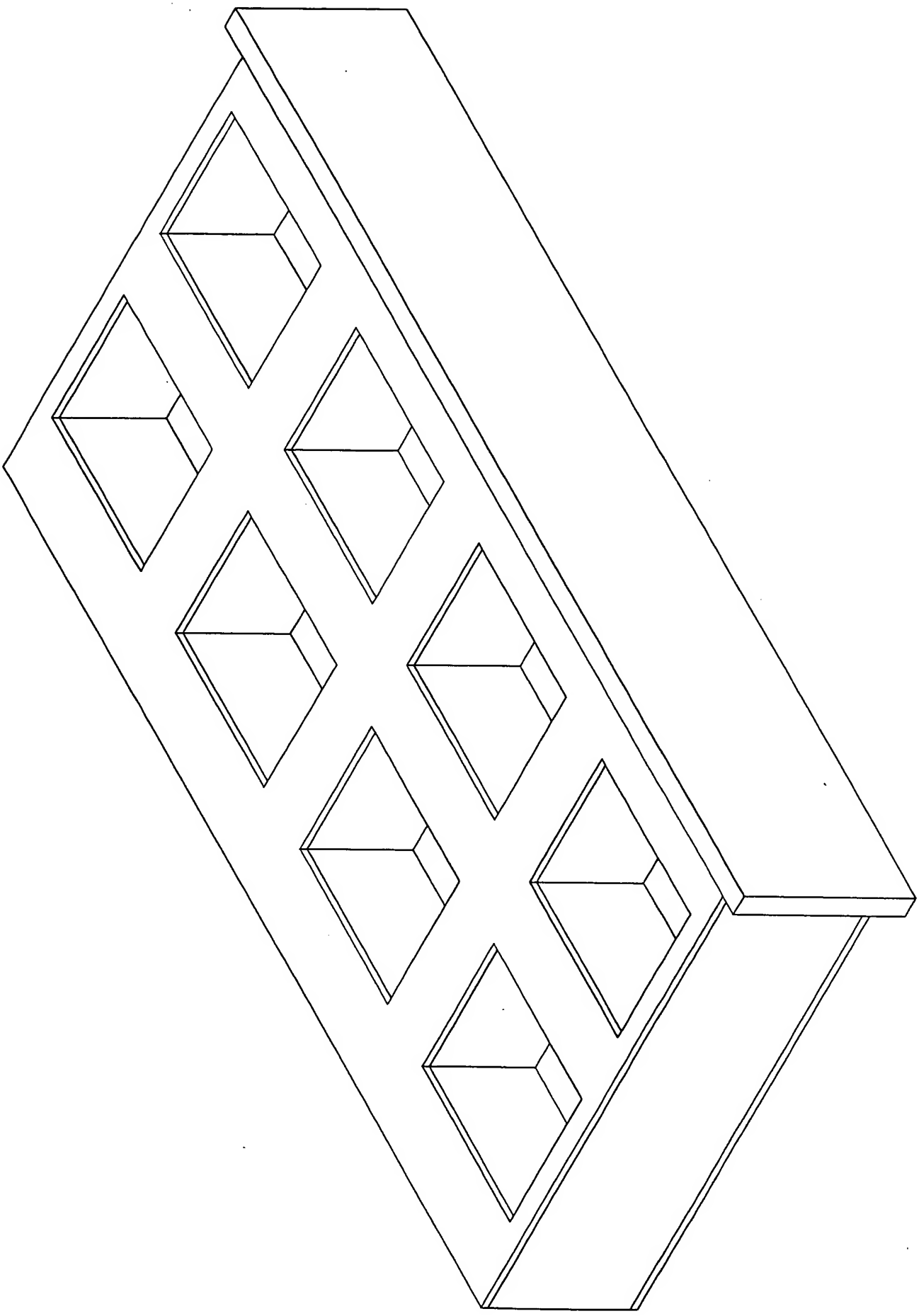
6. Project Cost

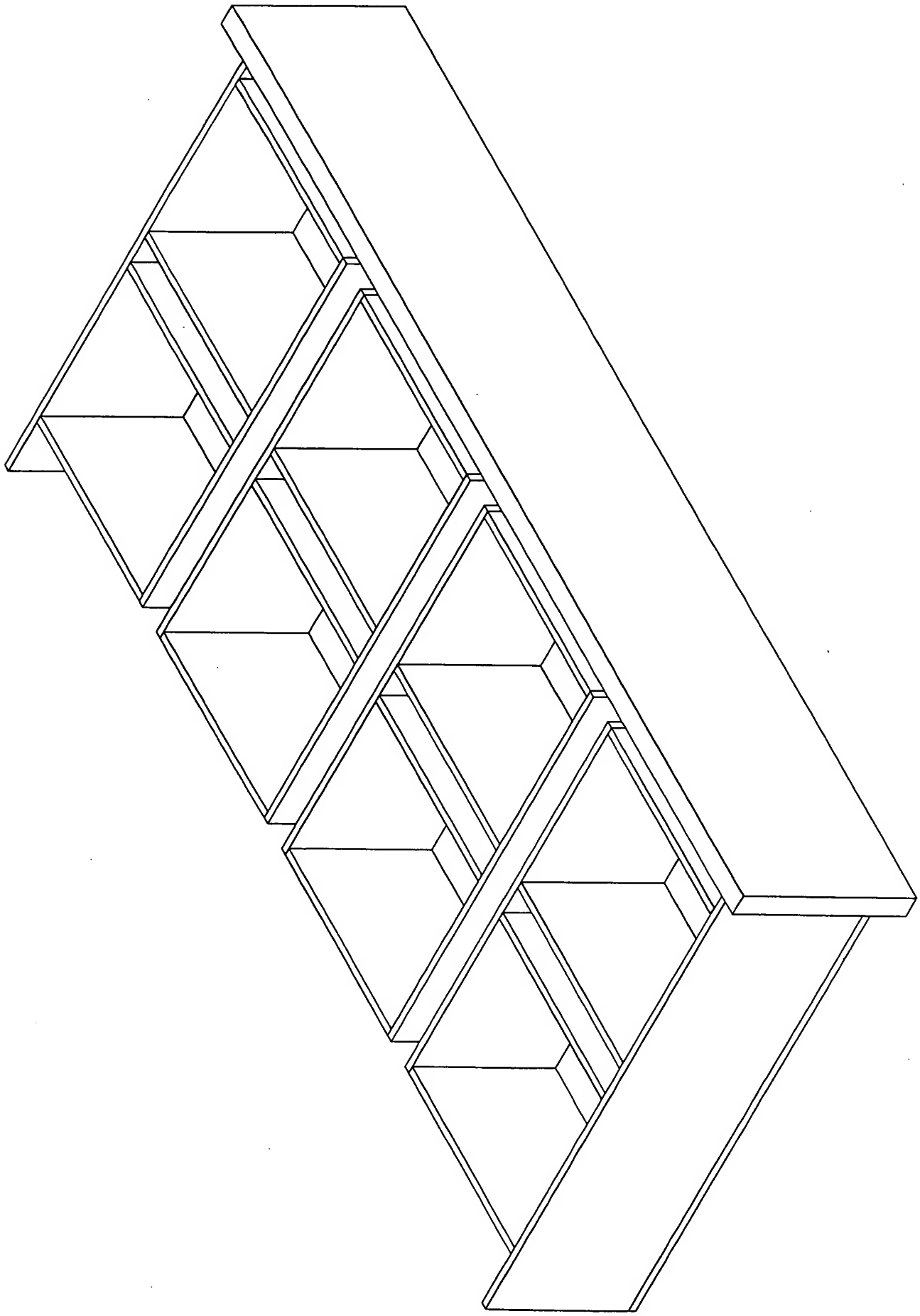






16 Brewer

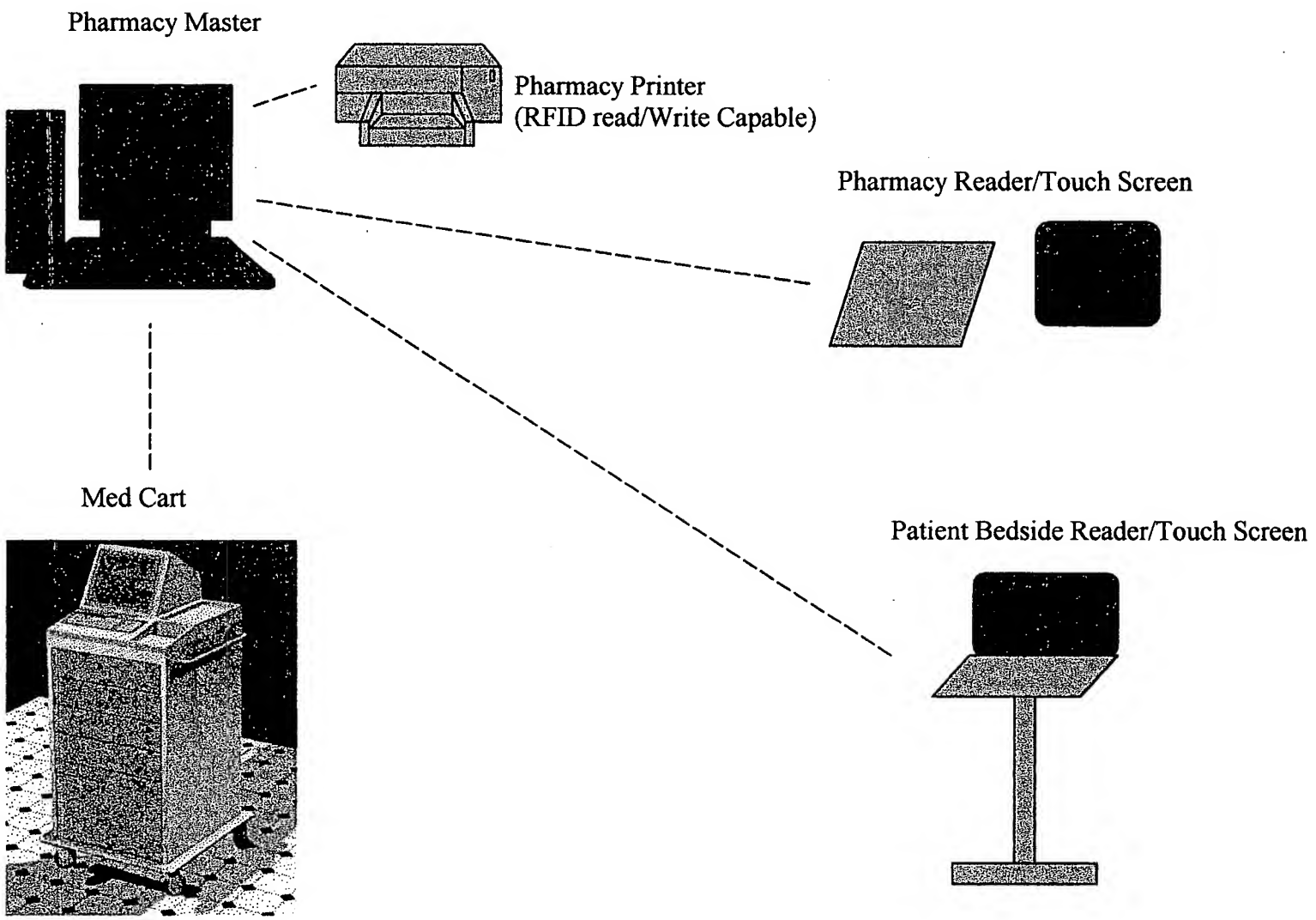




1/17/2002
J Caputo

SafetySyringes, Inc.

Medication Error System Concept



ESCORT MEMORY SYSTEMS
A DATALOGIC GROUP COMPANY

170 Technology Circle
Scotts Valley, CA 95066
Phone (831) 438-7000
Fax (831) 438-5768

PRICE QUOTATION revised 1/23/02

Customer: Safety Syringes Inc.
Contact Name: Jim Caputo
Address: 1939 Palomar Oaks Way, Suite A
Address:
City, ST Zip: Carlsbad, CA 92009
Fax: 760 918 9908
Phone: 760 918 0565

Quote Number 011206A
Quote Date 1/23/02
Expiration Date 2/17/02
Page Number 1

Part #	Description	Qty	List Price per unit	Disc.Price per unit	Ext. Price	Delivery
App 083 NRE	Med Cart Stage 1 - Proof of Concept Development. EMS will develop a proof of concept prototype to demonstrate the capabilities of a smart drawer antenna system capable of reading pharmaceuticals and medical supplies. A minimum of two compartments will be demonstrated with manual switching between the compartment antennas. SSI to provide samples of medical items to be tagged. Tag sizes to be approximately 13x33 but may very depending upon sample items submitted. This prototype will be limited to the antenna geometry and circuit design. No enclosure design is to be done at this stage. Upon successful completion of this task EMS will provide Stage 2 & 3.	1	$ 5,000.00	$ -	$ 5,000.00	COMPLETED and PAID
App 083 NRE	Med Cart Stage 2 - Design Implementation. EMS will implement the design concept developed in stage 1 and incorporate a multiplexer design that will allow a single controller to pole multiple antennas/drawers minimizing the number of controllers required for this product solution. Will subcontract the manufacturing of the cabinet to a compentent supplier and integrate the PC, I/O controls, Solenoids, Relays and RFID. SSI to provide PC and LCD per hardware specification. EMS to provide, 4 LRP820s, powers supply(s) Opto22 controls for PC control of drawer actuation via the PCI bus. This quote is being revised from the previous quote of 2 active drawers with 4 active compartments to 3 active drawers with 8 comparts each and a read/write station on the top desk surface of the med cart. NOTE: SSI is to provide all software required to access the RFID controllers, drawer openings, and database management. EMS to demosnstrate functional control over all features via software.	1	$ 47,000.00	$ -	$ 47,000.00	8 weeks from SSI approval to proceed.
App 083 NRE	Pharmacy Read Station LRP820 w/ custom antenna (similar to a single drawer compartment), power supply, and communication cables. SSI to provide computer and LCD display. Price is estimate only as this has not been clearly defined.	1	estimate only $7500	$ -	$ 7,500.00	4 weeks to be scheduled.
App 083 NRE	Bed Side Read Station LRP820 w/ custom antenna (similar to an LRP820-08) power supply, and communication cables. SSI to provide computer and LCD display.	1	$ 5,000.00	$ -	$ 5,000.00	3 weeks. To be scheduled
				Total	$ 64,500.00	

Terms: Stage 1: Net 30 days. Regardless of performance or SSI's to decision to proceed to stages 2 & 3.
Stage 2, Pharmacy Read Station and Bed Side Read Station require 50% payment prior to starting.

Quote by: Brian Monahan

ESCORT MEMORY SYSTEMS (EMS), is a world-wide leader in the industrial automation field, offering solutions based on Radio Frequency Identification Systems (RFID) & Network Interface Modules.

SafetySyringes, Inc.™
1939 PALOMAR OAKS WAY, SUITE A, CARLSBAD, CA 92009
TEL 760.918.9908 • TOLL FREE 877.477.0776
FAX 760.918.0565 • www.safetysyringes.com
FED. ID.# 95-4305850

PURCHASE ORDER

P/O NUMBER	PAGE
100539-00	1

P/O DATE	ORDER TYPE	CHANGE/CANCEL
01/29/02	Normal	Change

ORDERED FROM:
ESCORT MEMORY SYSTEMS
170 TECHNOLOGY CIRCLE

SCOTTS VALLEY CA 95066

SHIP TO:
SAFETY SYRINGES, INC.
1939 PALOMAR OAKS WAY
SUITE A
CARLSBAD CA 92009

BUYER	TERMS	ACKNOW-LEDGE	CONFIRM	FOB	SHIP VIA	COL/PPD
C ANDREASSON	NET 30 DAYS	No	No	N/A	N/A	

LINE UMBER	QUANTITY ORDERED BLANKET TYPE	U/M	ITEM NUMBER DESCRIPTION/COMMENTS	PRICE/UNIT	REQUESTED DATE	EXTENDED PRICE
1	1	EA	QUOTE 011206A-1 STAGE 1 - PROOF OF CONCEPT DEVELOPMENT	5,000.0000	12/21/	5,000.00
	1	EA	QUOTE 011206A STAGE 2 - DESIGN IMPLEMENTATION	47,000.0000	03/12/	47,000.00
3	1	EA	QUOTE 011206A Pharmacy Read Station Estimate Only	7,500.0000	01/29/	7,500.00
4	1	EA	QUOTE 011206A Bed Side Read Station Estimate Only	5,000.0000	01/29/	5,000.00

Total Ext Price = 64,500.00

COMMENTS:

FAXED 1-29-02

APPROVED BY [signature] DATE 1/29/02

January 25, 2002
Jim Caputo
Safety Syringes, Inc.

Med Error System (Demo)
Use Cases

Administration Computer (for the demo, could be performed on the pharmacy master station)

- **Clerk**
  - Logs into system
  - Enters patient information
    - Name
    - Address
    - Phone
    - Insurance information
    - Patient medical history
      - Allergies to drugs
      - Any historical medical information
  - Enters patient ID Number
  - Enters association of Patient ID # to RFID Tag #
  - Prints patient ID Card (RFID Tag)
  - Prepares billing
  - Reviews billing reports

Doctors Computer (for the demo, could be performed on the pharmacy master station)

- **Doctor**
  - Logs into system
  - Reviews patient information
  - Generates prescription for a patient
  - Forwards prescription to pharmacy
  - Reviews reports
    - Med Error reports
    - MAR reports

Pharmacy Master Station

- **Pharmacist**
  - Logs into system
  - Verifies prescriptions
  - Reviews prescription for patient's compatibility
  - Reviews prescriptions for other drug's compatibility
  - Approves prescription and releases to administer
  - Reviews reports
    - Drugs delivered

Inventory reconciliations
Med Errors reports
MAR reports
Billing reports
Drug retrieval errors
Reviews Med Cart inventories
Current inventory vs. inventory Minimums

Pharmacy Station Reader/Writer

Pharmacy Technician

Logs into system
Receives medical product and places into inventory
Scans drugs going to Med Cart
Re-supplies hospital floor Med Carts
Reviews Med Cart inventories
Current inventory vs. inventory Minimums

Med Station

Pharmacy Technician

Logs into system
Re-supplies medications to cart

Nurse

Logs into system
Selects patient from menu
Reviews patient prescriptions
Reviews current (MAR)
Drugs administered
Drugs to be administered
Selects current drugs to be delivered to patient
Retrieves drugs from Med Cart
Electronically associates drug with patient

Patient Station

Nurse

Logs into system
Scans patient card and drugs for Go/No Go delivery
Reviews Go/No Go readout
If Go administers drugs
Enters "Drugs Given" confirmation
If No Go verifies cause of error
Identifies/corrects error
Repeats from scan patient card and drugs operation
Enters patient medical notes as required (patient condition, etc)
Views patient prescriptions vs.MAR report (may print MAR report at nurses station)

Note: It is assumed that all product to be used for the demo has been pre tagged with RFID labels associated to a database with the following information:

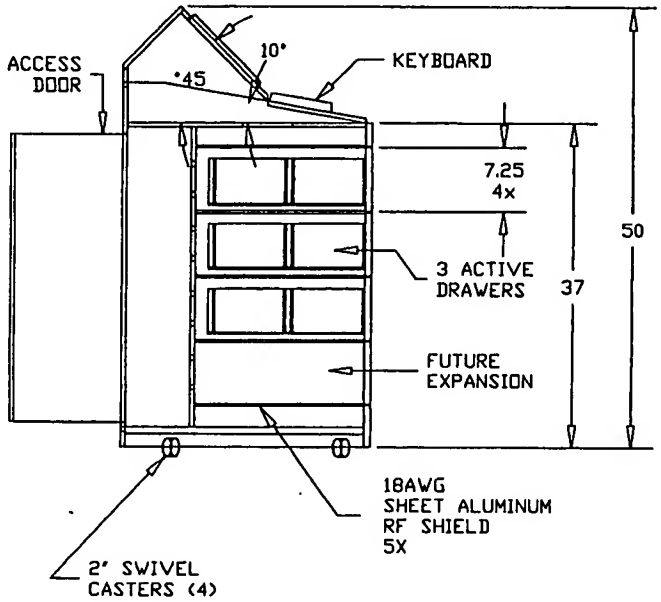
Manufacturer
Part/Item Number
Product Name/concentration
NDC Code
Expiration Date
Lot Number

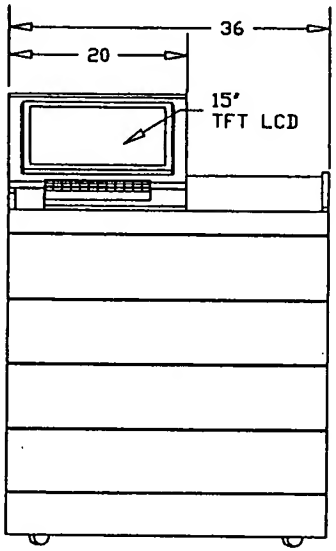
This can be accomplished at the pharmacy read/write station or via a Zebra printer/reader/writer.

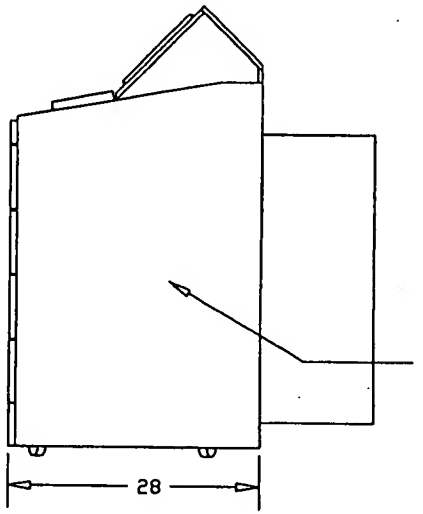
O-PARTS O-TOOLS □-ASSEMBLY △-TEST / INSP
LEGEND LEGEND

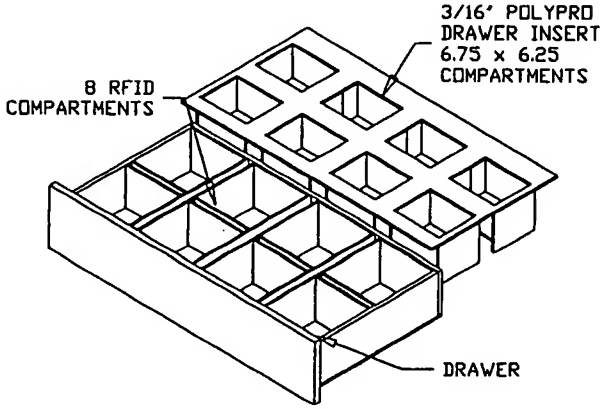
CONFIDENTIAL

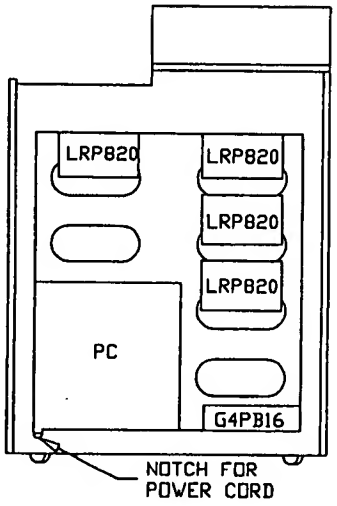
REVISIONS					
REV	ECO#	BY	DATE	CHANGE	APPR/DATE
1.D	–	BHM	020131	RELEASE FOR FABRICATION	J.C. (SSI) / 020131

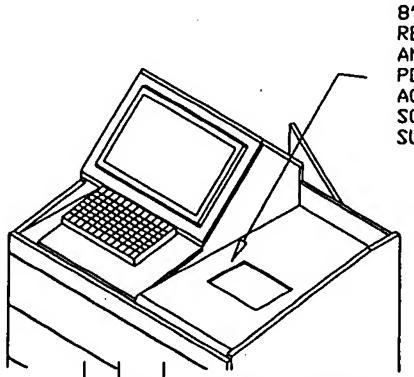












ITEM	QTY	PART DESCRIPTION	EMS P/N

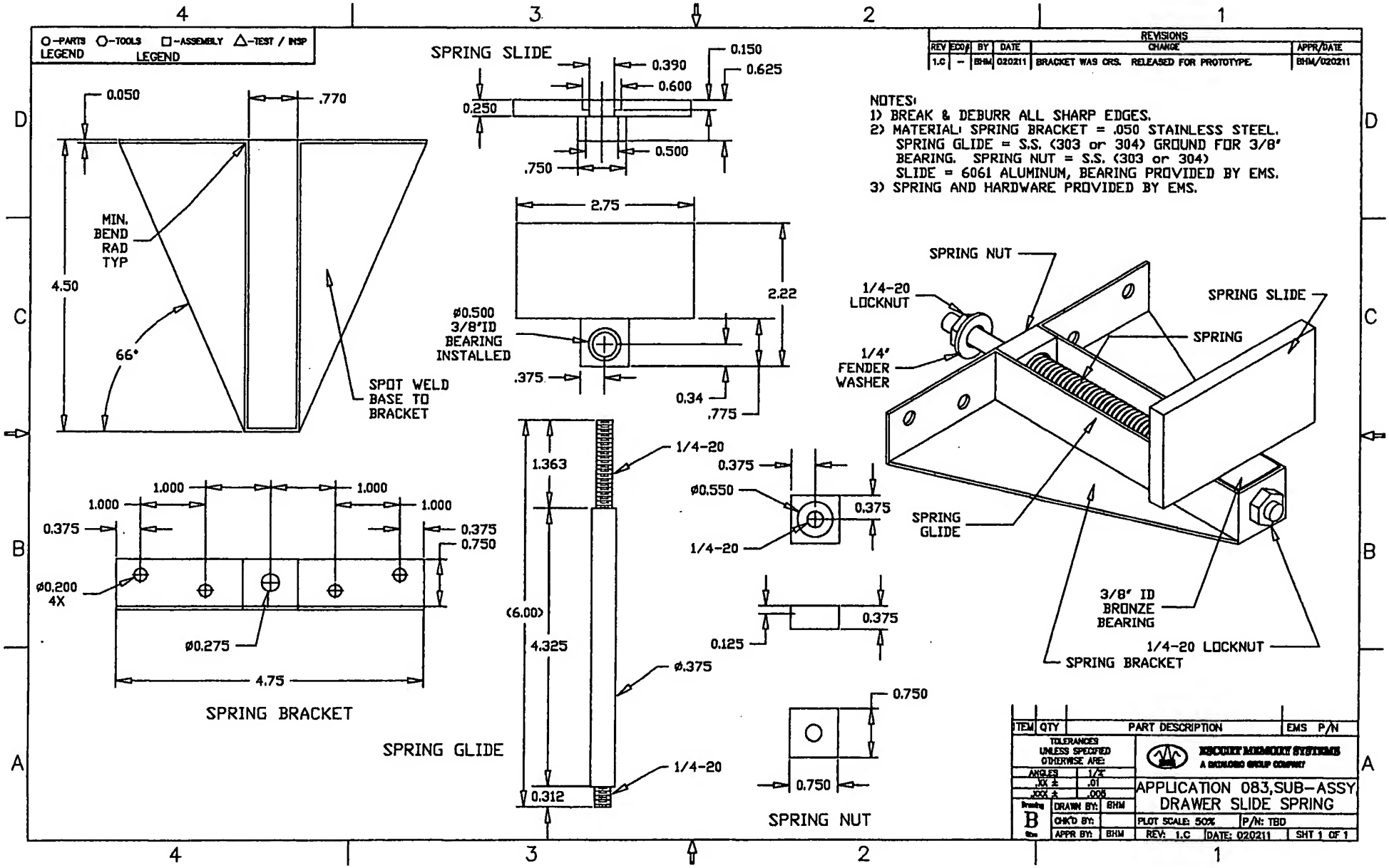
TOLERANCES UNLESS SPECIFIED OTHERWISE ARE:
ANGLES
.XX ±
.XXX ±

ESCORT MEMORY SYSTEMS
A DATALOGIC GROUP COMPANY

MED STATION WITH RFID SPECIFICATION DWG

Drawing Size: B
DRAWN BY:
CHK'D BY:
APPR BY: BHM
PLOT SCALE: NONE | P/N:
REV: 1.D | DATE: 020131 | SHT 1 OF 1

CONFIDENTIAL

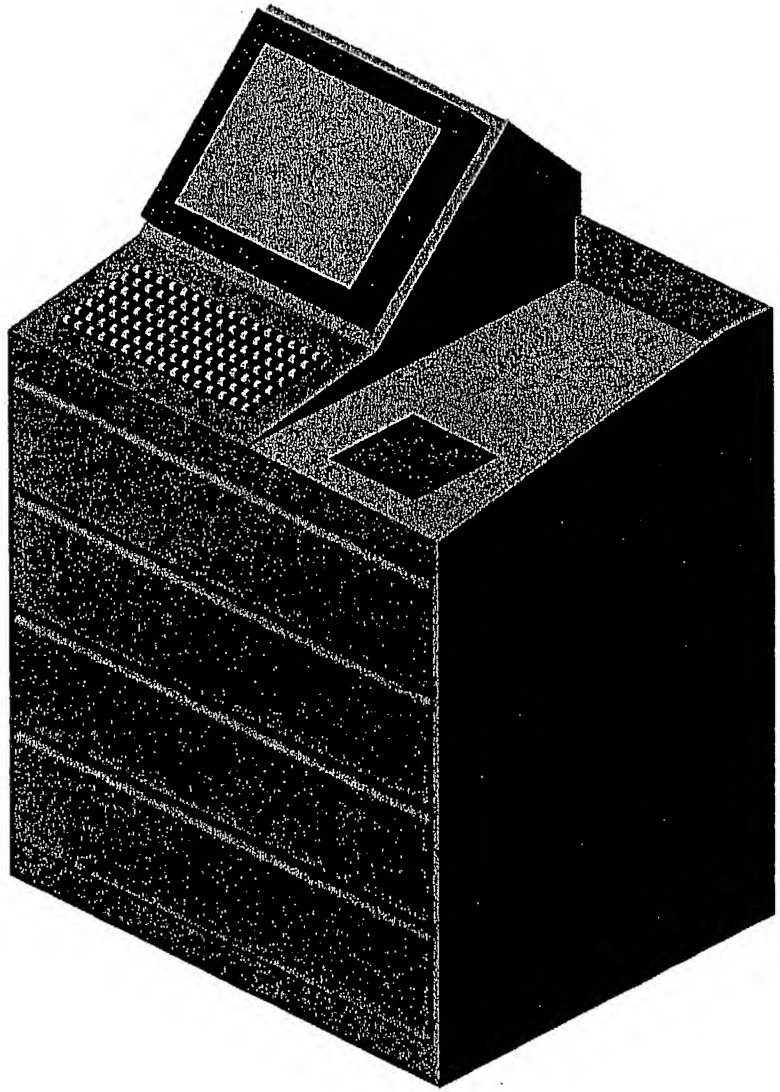


CONFIDENTIAL

SafetySyringes, Inc.™

02/15/02

MEPS Dispensing Station



CONFIDENTIAL

UltraSafe®
PRODUCTS & SERVICES

SafetySyringes, Inc.™

Board of Directors Meeting

February 19, 2002

Business Development – RFID Med Error System

Jim Caputo

UltraSafe®
PRODUCTS & SERVICES

SafetySyringes, Inc.™

SSI MED ERROR PREVENTION SYSTEM
"MEPS"

Pharmacy

Reports
Prescriptions
Prescription Errors
Inventory Control Reports

Plate/Tunnel Scanner

Supply To Cart

Returns to Pharmacy

MEPS Dispensing Station

Reports
Inventory Control (Min/Max)
Lot/Date Code Control

Un-Used Drugs from Bedside Returned to Cart

Drugs To Patient Station

Patient Bedside

Reports
Patient/Drug Report
Nurses "MAR" Report
Med Error Report
Patient Billing
Nurse/Drug Report

Project Status

- Software development – Nextwerk
  - Design framework complete (interface with EMS hardware)
  - Developing "use cases" detail
  - Developing database systems

- Hardware – Escort Memory Systems (EMS)
  - Dispensing station approved and in fabrication
    - Drawer completed 02/14/02
  - Patient station – basic design complete
  - Pharmacy station – to be developed

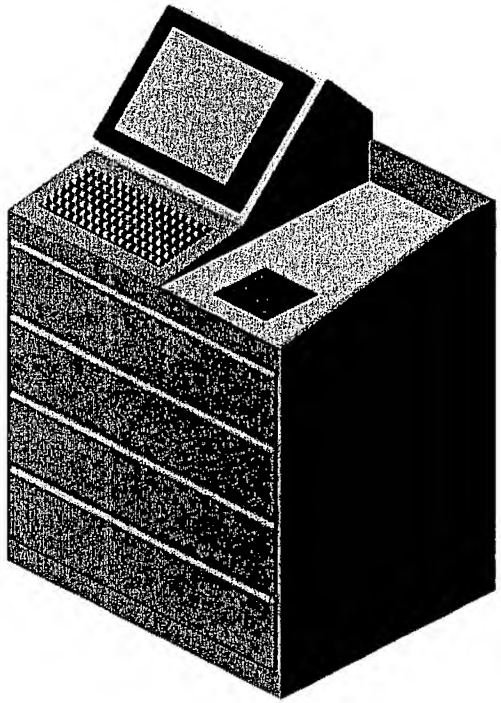
- Agreements
  - Nextwerk – LOI signed
  - EMS – Final revision in process
    - Target completion date 03/01/02

Demo System Cost Projection

•	Med Cart RFID Development & Fabrication	$ 52,000
•	Nextwerk Software Development	$ 28,500
•	Hardware (computers and touch-screens)	
	– Pharmacy Master	$ 2,500
	– Pharmacy Read/Write	$ 1,710
	– Dispensing Station	$ 3,325
	– Patient Station	$ 2,290
•	Patient Station RFID & Fabrication	$ 7,500
•	Pharmacy Station RFID & Fabrication	$ 5,000
•	Contingency	$ 20,000
	TOTAL	$122,825

SafetySyringes, Inc.
02/15/02

MEPS Dispensing Station



Objectives for Remainder of FY02 and First Half of FY03

- Develop MEPS marketing strategy utilizing demo system as a springboard technology
  - Identify Initial Market Focus
    - Medication Error Driven
      - Controlled Substances
      - Chemo Therapy Drugs
      - Blood Products
    - Process Control Driven
      - Surgical Instruments/Sterilization
      - Hospital Instrumentation/Location and maintenance
  - Develop strategic relationships
    - GPO's
      - Premier, Novation
    - Government agencies
      - FDA, CDC, OSHA
    - Medication Error Organizations—ISMP, Institute for safe Medication Practices
    - Pharmaceutical Companies
- Beta Site Testing
  - Identify 2 Beta Sites by 05/30/02
- Develop 2nd generation product based on user and beta site testing
- Develop Business Plan

SSI MEPS

System Requirements

Meeting held 02/25/02
Shariq
Mubashir
Jim
on use case tests/definitions
See mark-ups

Prepared By Mubashir A. Mian
Version 1.1 February 22, 2002

REVISION HISTORY

DATE	REVISION	DESCRIPTION	AUTHOR
February 22, 2002	1.1	Completed basic use cases	Mubashir A. Mian
February 17, 2002	1.0	First Cut – lots of details need to be added. Need help from Shariq/Jim on Section 4.	Mubashir A. Mian

TABLE OF CONTENTS

1. Introduction

This purpose of this document is to define and explain the Specifications of the MEPS2000 system. Software development on the system will be based on an approved copy of this document.

1.1 Glossary of Terms

AREA	Explanation
RFID TECHNOLOGY	
LRP	The LRP reader module. It will be embedded in various devices that we will use.
INVENTORY	
Tagged Inventory	This means medicines that come in through receiving and they are already RFID tagged.
Un-tagged Inventory	This means medicines coming into the system which do not have RFID tags on them.
Drug Mix	This mix is created by the Pharmacist in a hospital. Sometimes hospitals buy drugs in large quantities. Based on a doctor prescription, the pharmacist will take little quantities of tablets etc and put them in a little plastic bag. This is the drug mix. This mix is always specific to a customer and his prescription.
RF Tagged bag	These are empty PVC pouches which already have an RFID sticker attached. This is for demo only. In the real environment, we will probably use a regular printer which will ink print RF Tags.
REPORTING	
MARS	Medical Administration Report.
MER	Medical Error Report

1.2 Intended Audience

The intended audience for this document is Messrs Jim Caputo and Shariq Hussain on behalf of SSI, Mubashir Mian and a development team on behalf of NEXTWERK.

This document serves two purposes. Initially we will use it as a working document between SSI and NEXTWERK to finalize our mutual understanding of the project and implementation scope. Once SSI has signed off on the document, this will be used by NEXTWERK developers as a basis for software development.

2. System Features

These are some features that cannot be explained by use cases. These features need to be implemented.

2.1 Pharmacy

We have to incorporate the prescription review process and show that prescriptions have been released.

2.2 Dispenser

On Returning Drugs to Dispenser, Nurse should be able to annotate why she is returning drugs.

- Alarms Management:
  - The ability to reset alarms.
  - The ability to see different alarms and when they occurred.

2.3 Bedside Station

3. System Modules

The system consists of the following modules.

Name	Runs on
Patient Module	PC only
Inventory Module	PC only
Alarms Module	PC only
Prescription Module	PC only (can be combined with Patient)
Medcart Main Module	Medcart only
Bedside Main Module	Bedside only
MARS / MERS reporting	PC, Medcart and Bedside

4. System Use Cases

4.1 Patient Module

Actor	#	Flow	Use Case
Any	1	PRI	Admit Patient
	2	PRI	Find / Browse Patients

	3	PRI	Edit / Modify Patient Record
	4	PRI	Discharge Patient
	5	PRI	Display Patient Invoices

4.2 Pharmacy Station Inventory Module

Actor	#	Flow	Use Case
Any	1	PRI	Add untagged inventory to the inventory
	2	PRI	Add pre tagged inventory
	3	PRI	Add custom drug mix to the inventory
	4	PRI	Review Inventory on Hand
	5	PRI	Get a restocking notification from the dispenser MIN/MAX
	6	PRI	Get an alarm from the dispenser
	7	PRI	Dispatch Drugs to Medcart
	8	PRI	Run Inventory Checks [Various Reports]
	9	PRI	Return inventory from Dispenser
	10	PRI	Write Off unused / destroyed inventory

4.3 Pharmacy Station Prescription Module

Actor	#	Flow	Use Case
	1	PRI	Review New Prescriptions
	2	PRI	Approve New Prescription
	3	PRI	Reject New Prescription
	4	PRI	Modify Doctor's Prescription

4.4 Dispenser [MEDCART]

Actor	#	Flow	Use Case
Any	1	PRI	Login
Nurse	2	PRI	Review Her Patients
	3	PRI	Retrieve Drugs for Patient X.
	4	PRI	Return Drugs.
	5	PRI	Review MARS
Technician	6	PRI	Load inventory into Dispenser
	7	PRI	Retrieve Returned Drugs from 'Return Drawer.'
Doctor	8	PRI	Review Patient MARS
	9	PRI	Review approved prescriptions for a patient
	10	PRI	Browse patients
	11	PRI	Find a patient

4.5 Bedside Station

Actor	#	Flow	Use Case
Any	1	PRI	Administer Drug
	1a	EXC	Not Administer Drug

5. Concepts and Business Rules in the Customer Domain

These concepts are not a part of the project specification. These are provided so that all parties on the project work from the same set of assumptions. This portion to be provided by SSI.

5.1.1 Patient and Admission

/**********/

5.1.2 How patients are admitted in hospitals – General Overview

/**********/

5.1.3 How patients are billed for hospital services

/**********/

5.2 Admitted Patients

5.2.1 How a prescription is created

/**********/
/**********/

5.2.2 Prescription Lifecycle (Start to Finish)

/**********/
/**********/

5.2.3 How the nurses make sure today that patients are getting their medicines

/**********/
/**********/

5.2.4 What usually goes wrong with drug administration

/**********/
/**********/

5.3 In the Pharmacy:

5.3.1 The utility of the Pharmacy in the hospital

/**********/
/**********/

5.3.2 How drugs usually arrive today

/**********/
/**********/

5.3.3 How drugs will arrive after MEPS

/**********/
/**********/

6. Design Concepts for the Solution Domain

This section is to be used as the primary aid in designing the software. These concepts and ideas are put together by the NEXTWERK team in San Diego. The purpose of explaining them here is to amplify some key areas of the solution domain.

7. USE CASES DETAIL

7.1 Patient Module

Use Case Number	UC-1
NAME	Admit Patient
ACTORS	Any
GOAL IN CONTEXT	Start a new patient record.
PRE-CONDITION	Successful Login
POST-CONDITION	Patient record in our system is successfully initialized
UC DESCRIPTION	❑ The operator starts the Patient Module ❑ Fills out the patient form ❑ Fills out other details [allergies etc] ❑ Confirms to admit ❑ Patient is admitted
SCENARIOS	Patient already exists Key information is missing on the form
NOTE	

Use Case Number	UC-2
NAME	Find / Browse Patients
ACTORS	Any
GOAL IN CONTEXT	Looking for the right patient
PRE-CONDITION	Successful Login
POST-CONDITION	
UC DESCRIPTION	❑ When Browsing: o The operator can browse the information by Date or By alphabet. o The system will show a list of all records in the system. ❑ When Finding: o The operator will key in search criteria. The system will return a list of Patients whose names are identical to the alphabets keyed.
SCENARIOS	No patient record.
NOTE	

Use Case Number	UC-3
NAME	Edit / Modify Patient Record
ACTORS	Any

GOAL IN CONTEXT	Correct an entry
PRE-CONDITION	Successful Login
POST-CONDITION	
UC DESCRIPTION	❑ The operator finds the patient to edit. ❑ The operator puts the form in edit mode. [Button.] ❑ Makes the change in the desired field. ❑ Saves and confirms the operation. [Confirm dialog box.]
SCENARIOS	
NOTE	Need to go over the PK for a patient record. Also, it would be great to find how the real hospitals deal with change in records and what can they change after admitting. For the demo version, we will use a simplified use case. In the production version, a lot of checks need to go into place before a patient record can be modified. Also, in the production release, we'll have to run an audit trail of modifications.

Use Case Number	UC-4
NAME	Discharge Patient
ACTORS	Any
GOAL IN CONTEXT	Get Patient record de-activated in our system. For the demo, the purpose of this step is also to show that on discharge, the invoice information is correctly handled.
PRE-CONDITION	Successful Login
POST-CONDITION	
UC DESCRIPTION	❑ The operator goes to the 'Discharge Screen.' ❑ The screen guides the operator through the steps of the discharge process. ❑ On pressing [Confirm Discharge Button] the system will discharge the patient from the system.
SCENARIOS	
NOTE	We should get a discharge checklist from a real hospital. Need to find out what the real discharge procedure is and just mimic it.

Use Case Number	UC-5
NAME	Display Patient Invoices
ACTORS	Any
GOAL IN CONTEXT	Reporting
PRE-CONDITION	Successful Login
POST-CONDITION	

UC DESCRIPTION	This is a use case for a reporting feature. The operator goes to the relevant screen and requests invoice records for a particular patient.
SCENARIOS	
NOTE	Need to ensure that Invoices for discharged patients are also available on the system.

7.2 Pharmacy Station Inventory Module Use Cases

Use Case Number	UC1
NAME	Add untagged drugs to the inventory
ACTORS	Pharmacist / Technician
GOAL IN CONTEXT	Inventory Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	❑ A box of drugs shows up. ❑ The tech opens the box and takes out individual tablets or syringes. ❑ He puts syringes in plastic bags. Each bag has an RFID tag on it. ❑ Then the tech goes to the Add Inventory window and presses the Add-Untagged button. ❑ The system brings up a form. ❑ The tech fills out basic information ❑ The system brings up a dialog box and asks the tech to bring the bag in front of the RF Antenna. ❑ At this time the system reads the tag and associates it with the drug as input on the form. ❑ The system confirms that the drug has been added.
SCENARIOS	
NOTE	For the demo, the following questions need to be answered: ❑ When adding inventory, what would we typically add in front of the demo customers. ❑ Are we going to deal with upkeep of untagged inventory? I mean should we keep track of incoming drugs whether they are tagged or not?

Use Case Number	UC-2
NAME	Add pre tagged inventory
ACTORS	Pharmacist / Technician
GOAL IN CONTEXT	Inventory management
PRE-CONDITION	
POST-CONDITION	

UC DESCRIPTION	❑ A box of drugs shows up. ❑ The tech brings up the 'Add tagged inventory' window. ❑ The system scans the tag. ❑ {if a manifest is provided, the system will find the name of the drug automatically from the manifest. That is probably not going to happen in the demo.} ❑ If the manifest is not provided, the tech will type in the name of the drug. ❑ The system confirms that the drug has been added.
SCENARIOS	Adding pre tagged drugs without a manifest. Adding pre tagged with a manifest
NOTE	If we are to add with manifest, then a manifest format should be defined now.

Use Case Number	UC-3
NAME	Add custom Drug Mix
ACTORS	Pharmacist / Technician
GOAL IN CONTEXT	Inventory Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	This usually happens when the Pharmacist takes small quantities from bulk storage and puts together a custom mix according to a prescription. ❑ Pharmacist takes an empty RF tagged bag. ❑ Draws some drugs from jars etc and puts them in the bag. ❑ Brings up the 'Custom Mix' window on the system. ❑ Here, the Pharmacist types in names and quantities of what he added to the bag. ❑ Then he chooses a customer and a prescription from a choice-list and associates it with the bag. ❑ He saves the form and system confirms that a custom mix has been added to the inventory.
SCENARIOS	
NOTE	At the time of mixing do we need to associate this particular tag to a customer?

Use Case Number	UC-5
NAME	Get a restocking notification from a MEPS device
ACTORS	Any
GOAL IN CONTEXT	Inventory Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	A restocking alarm program will always be running on select machines. It will run in the system tray. The same will also be available inside the

	inventory application. So basically there are two ways of getting the restocking requests. This use case defines the most likely i.e. via system alarm. ❑ The tech will notice a popup alarm on the Pharmacy PC. ❑ On pressing the OK button, a window will open up which will show the level of inventory in a specific MEPS cart. ❑ After reading this information, the tech will dismiss the alarm thru a button. ❑ The system will understand that the tech knows about the restocking request. ❑ The tech will take appropriate action.
SCENARIOS	What if the alarm goes off and the tech dismisses it but does nothing. Should there be a timeout?
NOTE	

Use Case Number	UC-6
NAME	Get alarm from a MEPS device
ACTORS	Any
GOAL IN CONTEXT	Exceptions Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	Alarms on PCs will be implemented in popup windows. An alarm manager module will be running on every PC in the system. ❑ The tech will see a popup window flashing on the screen. ❑ He will read the alarm and dismiss it. ❑ The system assumes that an alarm condition has been safely conveyed to the right party. ❑ The system will wait for the alarm to be reset on Medcart.
SCENARIOS	
NOTE	Later, we can add a feature that a user can remotely reset alarms on any Medcart in the system.

Use Case Number	UC-7
NAME	Dispatch drugs to Medcart
ACTORS	Any
GOAL IN CONTEXT	Inventory management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	This is basically an inventory displacement. A tagged inventory is moving from one location to another. ❑ The tech brings up the 'Move inventory' window.

	❑ The system asks him the target location (where and which Medcart is he taking it to? – this is for situations where there is more than one cart in the system.) ❑ The tech chooses the target Medcart ❑ The system goes in wait mode and waits for the tech to RF scan all drugs. ❑ When the user is done, he presses the confirm button on the window. ❑ The system confirms the names, quantity and target location of these drugs. At this time, the system has put these drugs in 'In transit for XXX' status where XXX is the target Medcart.
SCENARIOS	Handling of these situations: ❑ The drugs don't show up at the Medcart. ❑ The drugs show up at the wrong Medcart (should we even handle that, this means that the Medcart should know what's coming its way.) ❑ The quantity changes while in transit.
NOTE	

Use Case Number	UC-8
NAME	Run Inventory Checks
ACTORS	Any
GOAL IN CONTEXT	Inventory Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	The system will provide various reports (based on samples provided to us.) The user will go to the reporting section of the module and choose the required report. The system will display the desired reports.
SCENARIOS	
NOTE	The number, types and contents of these reports need to be provided to us.

Use Case Number	UC-9
NAME	Return Inventory from Dispenser
ACTORS	Tech
GOAL IN CONTEXT	Inventory Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	This happens when inventory is retrieved from the Medcart and brought back to the Pharmacy. ❑ The tech will bring up the 'Return Inventory' window. ❑ Now the tech will RF scan everything that he brought back.

	❑ The system will confirm the quantities and names of drugs that are being returned. ❑ The system will confirm that the status and location of these drugs has changed successfully.
SCENARIOS	
NOTE	

Use Case Number	UC-10
NAME	Write Off Unused / Destroyed Inventory or return to Inventory
ACTORS	Any
GOAL IN CONTEXT	Inventory Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	This usually happens when the technician wants to return unused inventory back to the pharmacy. Here I am assuming unused also means unusable. ❑ The technician brings up the return inventory window. ❑ Now the technician scans the drugs. ❑ The system confirms that these drugs are to removed from the inventory. ❑ Now the system deletes these drugs from the inventory.
SCENARIOS	
NOTE	Should we differentiate between unused and destroyed for the purpose of the demo?

7.3 Pharmacy Station Prescription Module

Use Case Number	UC-1
NAME	Review new prescription
ACTORS	Pharmacist
GOAL IN CONTEXT	Prescriptions Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	New prescriptions can be added to the system from many places. The pharmacist needs a convenient way of finding out what needs to be filled. ❑ The pharmacist opens the 'New Prescription Requests' window. ❑ The window opens up and shows all new and unfilled prescriptions. ❑ The pharmacist chooses the first one he wants to fill. ❑ Now for this prescription: ❑ He figures out if it is OK to fill the prescription as is. (In order to

	approve.) ❑ Takes an empty RFID bag. ❑ Puts the prescribed drugs into the bag. ❑ Associates the bag to a particular prescription. ❑ Confirms. This action automatically approves the prescription while filling.
SCENARIOS	
NOTE	

Use Case Number	UC-2
NAME	Approve Prescription (see above)
ACTORS	Pharmacist
GOAL IN CONTEXT	Prescriptions Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	This is an extension of the above use case. The pharmacist will review a prescription and as soon as a prescription is reviewed, it will be implicitly approved.
SCENARIOS	
NOTE	

Use Case Number	UC-3
NAME	Reject Prescription
ACTORS	Pharmacist
GOAL IN CONTEXT	Prescription Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	❑ The pharmacist opens the 'New Prescription Requests' window. ❑ The window opens up and shows all new and unfilled prescriptions. ❑ The pharmacist chooses the first one he wants to fill. ❑ If there is a problem with this prescription, the pharmacist presses the 'reject' button. ❑ Now the prescription is marked as rejected. At this point, the doctor will have to provide a different prescription.
SCENARIOS	
NOTE	

Use Case Number	UC-4
NAME	Modify Doctor Prescription
ACTORS	Pharmacist
GOAL IN CONTEXT	
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	❑ The pharmacist opens the 'New Prescription Requests' window. ❑ The window opens up and shows all new and unfilled prescriptions. ❑ The pharmacist chooses the first one he wants to fill. ❑ If there is a problem with this prescription, the pharmacist selects the 'Modify Prescription' option from the window. ❑ Now he can modify the prescription to the way he sees fit.
SCENARIOS	
NOTE	

7.4 Dispenser Use Cases

Use Case Number	UC-1
NAME	Login
ACTORS	Any
GOAL IN CONTEXT	Authentication
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	❑ A user walks up to the Medcart ❑ If there are no alarms, the normal login window is floating on the screen. ❑ The user touches the login button ❑ The system comes back fields for ~~username~~ ~~and~~ password ❑ {a keyboard appears on the touch screen.} ❑ The user enters the information
SCENARIOS	Failed login Bad account
NOTE	

Use Case Number	UC-2
NAME	Review Patients
ACTORS	Nurse
GOAL IN CONTEXT	Routine nursing operation
PRE-CONDITION	

POST-CONDITION	
UC DESCRIPTION	This use case comes in play when the nurse is taking her rounds and wants to see what she needs to do [drug admin] for the patients. While doing these rounds, she will need an easy interface to see what drugs are due to which patients. ❑ Nurse walks up to the Medcart ❑ Chooses the Patient review button ❑ From available choices, she chooses Patient review. ❑ Now she has a list of patients. ❑ She chooses the one she is interested in. ❑ A new window pops up which shows what drugs have been given to the patient at what times. Also, what is due (according to the prescription.)
SCENARIOS	
NOTE	For the demo all patients belong to the nurse account. Need to talk to Jim and figure out how we will enter the prescriptions into the system so that a delivery schedule can be established in the database.

Use Case Number	UC-3
NAME	Retrieve Drugs for Patient X
ACTORS	Nurse
GOAL IN CONTEXT	Drug Administration
PRE-CONDITION	The nurse knows she needs to give a drug to a patient
POST-CONDITION	
UC DESCRIPTION	The nurse walks up to the Medcart and does her review. Here she figures that Patient X needs his drug. So she chooses the 'Retrieve Drug' option on the touch screen. ❑ Nurse chooses the right patient. ❑ Chooses the option that she wants to retrieve drugs for this patient. ❑ The system knows where the prescription is (in which pocket in which drawer.) The system ejects the right drawer and graphically shows on the screen where to get the drug from. ❑ The drawer opens up. ❑ The nurse retrieves the pouch. ❑ After taking the drug pouch she presses the drawer to close it. ❑ As soon as the drawer closes, the system runs a check on inventory and confirms that indeed she took the right drug pouch out of the drawers. ❑ The nurse walks away with the pouch and the system adjusts the inventory. [Sets it in the transit->to bedside status.]
SCENARIOS	Nurse takes the wrong medicine from the drawer. Nurse takes nothing out. Nurse takes out the right drug and then some more.
NOTE	

Use Case Number	UC-4
NAME	Return Drugs
ACTORS	Nurse
GOAL IN CONTEXT	Drug Administration
PRE-CONDITION	Drug has been retrieved from the Medcart but not administered for some reason. Now she wants to return it.
POST-CONDITION	
UC DESCRIPTION	❑ Nurse walks up to the Medcart with some drugs. These drugs need to be returned. ❑ She chooses the 'Return Drugs' option. ❑ The system opens the return drawer (the second drawer) and shows her a popup which tells her that she should place the drugs in the drawer. ❑ The nurse puts the return pouch in the drawer. ❑ Manually closes the drawer. ❑ The system recognizes the closure and registers the return. ❑ Now a window pops up which gives the nurse, an option to explain why she is returning the drug. ❑ The nurse can choose a comment from selection or write a new one. ❑ She closes the popup window. ❑ The system confirms the return
SCENARIOS	
NOTE	

Use Case Number	UC-5
NAME	Review MARS
ACTORS	Nurse / Doctor
GOAL IN CONTEXT	Drug Administration
PRE-CONDITION	Nurse / Doctor is logged in.
POST-CONDITION	
UC DESCRIPTION	❑ The user chooses the MARS option on the touch screen. ❑ Chooses the patient either from the list. ❑ A screen report shows up which shows what this patient has received.
SCENARIOS	
NOTE	The report should be categorized and organized by: Today YTD This week Yesterday etc ???

Use Case Number	UC-6
NAME	Load Inventory Into Dispenser
ACTORS	Technician
GOAL IN CONTEXT	Inventory Management
PRE-CONDITION	Some drugs were taken out of the pharmacy inventory and their status has been set to transit->Medcart-X.
POST-CONDITION	
UC DESCRIPTION	❑ Technician logs in and chooses inventory option ❑ From the inventory option, he chooses reload option. ❑ When he chooses reload, the Medcart automatically pulls up what its expecting [Jim, is that how it should be?] ❑ The main drawer pops open ❑ Technician loads drugs into pockets. ❑ Technician manually closes the drawer. ❑ The system checks incoming inventory and confirms on screen. ❑ The system sets its internal inventory count.
SCENARIOS	
NOTE	

Use Case Number	UC-7
NAME	Retrieve Returned Drugs from the 'Return Drawer'
ACTORS	Technician
GOAL IN CONTEXT	Inventory Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	❑ Technician logs in and chooses inventory option ❑ From the inventory option, he chooses 'return' option. ❑ The return drawer pops open. ❑ He removes all drugs from the drawer and closes it manually. ❑ The system recognizes that the drugs are gone and adjusts inventory. ❑ The inventory status is correctly marked at this time [Transit->return to pharmacy] ❑ A pop up confirmation message is displayed. It shows what was just retrieved. ❑ The technician confirms and then walks away.
SCENARIOS	
NOTE	

Use Case Number	UC-8
NAME	Review Patient MARS

ACTORS	Doctor
GOAL IN CONTEXT	Patient Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	This is same as UC-4 above.
SCENARIOS	
NOTE	

Use Case Number	UC-9
NAME	Review Approved Prescriptions for a Patient
ACTORS	Doctor
GOAL IN CONTEXT	Patient Management
PRE-CONDITION	Doctor is logged in.
POST-CONDITION	
UC DESCRIPTION	This is a general feature use case. ❑ The Doctor chooses the patient option ❑ He selects the patient he is interested in. ❑ He chooses the review approved prescriptions option. ❑ Here he sees approved prescriptions for the patient.
SCENARIOS	
NOTE	

Use Case Number	UC-10
NAME	Browse Patients
ACTORS	Nurse / Doctor
GOAL IN CONTEXT	Patient Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	This is a general use case. A user comes and logs in to the system. He chooses the browse option. Here he can browse patient records without actually typing a key.
SCENARIOS	
NOTE	

Use Case Number	UC-11

NAME	Find a patient
ACTORS	Nurse / Doctor
GOAL IN CONTEXT	Patient Management
PRE-CONDITION	
POST-CONDITION	
UC DESCRIPTION	This is a general use case. A user comes and logs in to the system. He chooses the Find option. Now he uses the virtual keyboard on the screen to enter search criteria. The system searches patient records and returns a list of patients who loosely match the search criteria.
SCENARIOS	
NOTE	

7.5 Bedside Station Use Cases

Use Case Number	UC-1
NAME	Administer Drug
ACTORS	Nurse / Doctor
GOAL IN CONTEXT	Drug Administration
PRE-CONDITION	A drug pouch has been retrieved from the Medcart (for a certain patient.) The status of this pouch is Transit->to patient
POST-CONDITION	
UC DESCRIPTION	❑ Nurse walks up to the patient bedside. ❑ Here she logs into the bedside station ❑ Chooses 'Administer Drug' option. ❑ Waves the morphine injection in front of the scanner + Patient card ❑ The system registers that the drug is going to patient X. ❑ Nurse injects the patient. ❑ The bedside station has a pop up confirmation window which asks if the drug was administered. ❑ She chooses the 'yes' option. ❑ The system confirms drug administration and sets the inventory etc.
SCENARIOS	Nurse comes to wrong patient Nurse did not administer drug Drug destroyed
NOTE	Is our assumption correct that each patient in a hospital will get one bedside station (I mean the ratio will be 1:1?)

Use Case Number	UC-1a
NAME	Administer drug exception
ACTORS	Nurse/Doctor

"Jim Caputo" <caputoj@sbcglobal.net>
To: candreasson
Subject: Weekly Report 01/7 -01/11
01/12/2002 11:57 AM

---

o Finalized time line with EMS/Shariq (See attached)

o Finalized EMS definitive agreement and passed on the information to Sanjeev. Sanjeev will address the items we discussed and incorporate into the final version and email it to me this weekend. Based upon the IK situation, Sanjeev has some wording he would like to see in the exclusivity section. It all made sense and hopefully we can get it through EMS review.

o Receive and processed Dave Cobb's last invoice for Dec 2001. He will forward all materials to us and send an expense report for such. Kathleen has the approve invoice from me to pay on next check run.

o Connected Shariq and Brian via conference call to get further definition of the hardware/software interfaces. Based upon the emails copied to me, they are making progress on the needs between the two areas.

o Mubashir is to be arriving in San Diego on Saturday. Shariq will schedule a meeting with him and us at SSI on Monday to see a demo of the system. We may need to let him take back the demo unit to work on the interfaces with the software. He already has the EMS provided communication system (active X controls) to work on. He is also to sign the final Nextwork LOI (binding document). If this is acceptable to him, we may not need to have definitive agreement as the LOI would suffice. To be discussed.

o Concept drawings were generated by Brian with the details of the system. The overall system will not exceed 42" tall (plus screen height) and 36" wide by 24" deep. It will include six 6" drawers and one 12" drawer front. Only 3 of the 6" drawers will be "powered".

o Finished first draft of the screens spec to be used at each station. We have settled on four stations: (See attached concept chart)

Pharmacy Master (with printer)
Pharmacy read station
Med Station
Patient Read Station

Mubashir's group will propose ideas on the individual schemes for each of the specified activities. (Shariq said this was their specialty and that we would be pleased with the results. We will hard copy each screen and add this to the specs.

Next week:

o Meet with Mobashir
o Meet with Brian of EMS at SSI (not firmed up as of yet)
o Get cost schedule for entire project (behind schedule on this; this was supposed to be ready by yesterday. I have a preliminary but it does not include the patient station or the Pharmacy read station)
o Prepare for Board Meeting if it is to be held next week.
o Finalize drawing detail with Brian.
o Forward EMS definitive agreement to Mark for review and begin the discussions of the details

"Jim Caputo" <caputoj@sbcglobal.net>

01/19/2002 03:32 PM

To: candreasson
Subject: weekly report

---

o Met with Brian of EMS Thursday
Meeting minutes and updated schedule sent out on Friday. I sent them from SSI, so let me know if you didn't get them for some reason. Has all the action items we discussed. Already heard back from Brian with no additions.

o Found the files on Dave's computer. Assume Gray Cary will handle from here.

o Key schedule Items
Med station sign off next week
Release Elements 2001 on fabrication (after samples of their work and finishes have been reviewed.

Next Week

o Meeting with Brian and Elements 2001 (both Shariq and I)

o Schedule review with Mubashir on software integration

Christer,

Thanks for your kind words. Great lunch. I think it is good to let loose now and again. I didn't mean to babble. The wine. Still recovering...

Jim

"Jim Caputo" <caputoj@sbcglobal.net>

To: candreasson
Subject: Weekly Report 01/21/02- 01/25/02

01/25/2002 09:37 PM

---

o Met with EMS/Elements in San Jose
  o Elements has the capability to build the demo med cart. Have the tools and know how to make a tight tolerance unit
  o Will be made out of plywood with laminate finish with acrylic top.
  o EMS still has some development work to finish the drawer demo. Some "cross talk" issues and output requirements issues. Mubashir will address some of it with software.
  o Color scheme approve to Elements; Drawing not approved until I can talk to Brian about the overall height. Talked with Elements and they o agree the height should and could be reduced by 4" - 6". I will pursue this with Brian on Monday. I will approve stage 2 based upon the new quote when I talk with him.

o Met Mubashir. I am impressed with his knowledge. I think he will be a great asset to the project. We are in the next detail level in the development of the software specs and he has already identified a couple of good ideas on how to handle the interface with the cart. He views the database management as trivial and the real development in the interface and control of the antennas.

I generated a "use cases" list per Mubashir's request to make sure we cover all the elements. He will advise if the form is what he needs. Could you look at the copy sent to you for other additions you may think we need to have. Specifically the actions, reporting or error detection you think we need.

o Mubashar will have a time line and any changes in quote based upon our meetings this week.

o Finished preliminary cost estimate for the demo development and demo unit fabrication. (see attached) Need Mubashir's update to finalize. Added $20,000 for contingency.

Next week:

o Finalize schedule
o Introduce Mubashir to EMS and get the integration planning going
o Finalize Med Cart dimensions
o Get patient station on order
o Develop detailed specs for pharmacy reader
o Continue software details with Mubashir/Shariq

 - Project Cost 011102.xls

Shariq Hussain
02/01/2002 06:32 PM

To: AMC-EMS Brian Monahan <bmonahan@ems-rfid.com>
cc: caputoj@sbcglobal.net
Subject: Re: Rockport Multiport Serial Card

Brian,
Microwarehouse rep has promised monday as delivery. Somehow he is claiming that they are back ordered. But i have called Elo direct and they seem to have a lot of them in stock. I will call him on Monday and ask for proof of shipping.
Thanks,
Shariq
AMC-EMS Brian Monahan <bmonahan@ems-rfid.com> on 02/01/2002 04:00:51 PM

AMC-EMS Brian Monahan <bmonahan@ems-rfid.com> on 02/01/2002 04:00:51 PM

To: Shariq Hussain/Howard Energy@Howard Energy
cc: "Jim Caputo (E-mail)" <caputoj@sbcglobal.net>
Subject: Rockport Multiport Serial Card

Shariq,

We received the serial port card today.
I fax'd you the paper work.

What is the status of the 15" LCD?

Brian

Brian Monahan
Applications Development Manager
bmonahan@ems-rfid.com <mailto:bmonahan@ems-rfid.com>

Escort Memory Systems
170 Technology Circle
Scotts Valley CA 95066
831 438 7000 ext. 214
831 438 5768 (fax)

"Jim Caputo" <caputoj@sbcglobal.net>
02/02/2002 08:56 AM

To: candreasson
Subject: Weekly Report 01/28 - 02/1

---

o Approved final drawing/dimensions and material specs to EMS. (you have the drawing).

o Elements has started on the first drawer unit for EMS test. Should be done within 1-2 weeks.

o EMS still working on "Cross Talk" issues They have solve two but when integrating the relay circuits that will communicate with the software we are using, a field was created and interfered with the antennas. According to Brian at EMS there is a fix for this. The cross talk between the compartments have been solved with metal shielding.

o Got the Nextwerk LOI signed. I am glad Mubashir's concerns were minor and we are able to move full ahead. He is very enthusiastic about the project and I think he is a great candidate for the long term software development at the hospital level. He brings a good problem solving mind to the table. Long term, he will have a positive impact on the unit cost of the MEPS Dispensing Station.

o Mubashir presented the schematic diagram for the controls circuit in our meeting yesterday. It looks good. We are coordinating with Brian at EMS for his review.

o Mubahsir had no changes to the latest time line. His only comment is that there is no contingency time for problems that may be encountered. (see attached time line)

o Mubashir has offered a 3D demo for the system. I told him to place that thought on hold. I am afraid it might slow us down. The real unit is what I am focusing on right now.

o We are meeting next week with Mubashir on a conference call with EMS to monitor progress to schedule. I will conduct this weekly or more often as necessary.

o I have updated the contents in the fire proof cabinet and included a table of contents for the folder residing there. All the agreements associated with the project and the CDA's are in one folder labeled EMS.

o Talked with Ray Vrabel regarding the Pyxis units. He was mildly cooperative with information but would not set up a meeting to view the systems.

o Talked with a Nurse at Little Company of Mary's hospital in Torrance. She was very helpful in answering questions regarding medication dispensing and delivery. Unfortunately they are a completely manual system. However, her feedback clearly indicates we are on the right path. Reduce labor and gain electronic reporting for inventory control, MAR's, Billing, etc.) If the costs go down on the tags, there will be no limit to the potential of this system.

Next week:

o Get patient station on order (did not complete last week)
o Develop detailed specs for pharmacy reader (did not complete last week)
o Continue software details with Mubashir/Shariq
o Schedule a meeting at EMS/Elements for progress review (within 2 weeks)
o Try to get an appointment with a Pyxis user to view screens and procedures.

Christer, When do you want to go to Houston? I will make the arrangements.

Project Time Line
EMS/Safety Syringes, Inc.
Medication Error System

Rev Date: 01/30/02

Rev Date: 01/30/02

Legend:
Schedule as of 01/09/02
Schedule as of 01/17/02
Schedule as of 01/30/02
XXXXXXX Percent Complete

Activity	Resp	Week Of:				2002				Week Of:							
		12/7	12/14	12/21	12/28	1/7	1/14	1/21	1/28	2/4	2/11	2/18	2/25	3/4	3/11	3/18	3/25
Med Cart:																	
Med Cart Proof Of Principle	EMS																
Develop Multiplexer Solution	EMS																
Develop Drawer Mock-Up	EMS																
Approve Mock-up	SSI																
Design Med Cart	EMS																
Approve Med Cart Design	SSI																
Develop Software/Controls	SSI																
Approve Demo Software	SSI																
Fabricate Med Cart:	Elements																
Integrate Software with Med Cart	SSI																
Integrate RF Readers/Mulitiplexers	EMS																
Patient Station:																	
Design Concept	EMS/SSI																
Design Approval	EMS/SSI																
Fabricate Sation	EMS																
Pharmacy Station																	
Design Concept	EMS/SSI																
Design Approval	EMS/SSI																
Fabricate Sation	EMS																
Full Demo Available																	

25-Jan-02

Safety Syringes, Inc.
Med Error System

Project Cost Projection

EMS/Oliver		1/23/2002
Phase I	$5,000	$5,000
Phase II	$25,000	
Phase III	$17,000	$47,000
Subtotal	$47,000	$52,000
Nextwerk (Software)	$16,000	$16,000
Hardware (SSI)		
Pharmacy Master		$2,500
Pharmacy Read		$1,710
Med Station		$3,325
Patient Station		$2,290
Subtotal		$9,825
Total:	**$63,000**	**$77,825**
EMS		
Patient Station	Not Quoted	$7,500
Pharmacy Station	Not Quoted	$5,000
Subtotal		$12,500
Contingency		$20,000
Grand total		**$110,325**

Shariq Hussain
02/04/2002 09:10 AM

To: AMC-EMS Brian Monahan <bmonahan@ems-rfid.com>
cc:
Subject: RE: revised quote

Brian,
Here is an email that got from our vendor friday morning. He has promissed to get the touch screen to you by monday, today. Please let me know if it gets there or not. If not, i will order directly from the vendor.
Thanks,
Shariq

---------- Forwarded by Shariq Hussain/Howard Energy on 02/04/2002 09:09 AM ----------

Michael.Magnus@mwhse.com on 01/31/2002 02:18:29 PM

To: Shariq Hussain/Howard Energy@Howard Energy
cc:
Subject: RE: revised quote

Shariq,

I am working on getting the monitor there by Monday, it should get there in time. On the new order, the original CPU model is discontinued but the same exact model with only 128mb or ram is available so I am shipping that one with an additional 128mb chip. This turns out to be the same price as the original. The rocketport card is again backordered. The order is placed and I will follow up tomorrow.

Thanks,
Mike

-----Original Message-----
From: shussain@hpubs.com [mailto:shussain@hpubs.com]
Sent: Thursday, January 31, 2002 3:11 PM
To: Michael.Magnus@mwhse.com
Subject: RE: revised quote

Thanks Mike,

Here is the second order:

One Compaq EVO computer MWE Part # CP18209
One Rocket port serial MWE Part # DEB2070
One Elotouch 1545L touch screen

Please bill and ship to our Oceanside address in your records.
Thanks,
Shariq

PS: With this order, we are looking at 2 touch screens in total

"Jim Caputo" <caputoj@sbcglobal.net> on 02/04/2002 10:36:19 AM

To: Shariq Hussain/Howard Energy@Howard Energy
cc:
Subject: FW: Drawing rev 1D

Shariq,

Please have Mubashir refer to the products as listed below for all future correspondence, schematics and drawings.
Thanks
Jim

-----Original Message-----
From: Jim Caputo [mailto:caputoj@sbcglobal.net]
Sent: Monday, February 04, 2002 10:35 AM
To: Bmonahan@ems-rfid.com
Cc: Shariq Hussain; Christer Andreasson
Subject: Drawing rev 1D

Brian,

This is to confirm my phone message to you from Friday, on the approval to proceed with the fabrication of the Med Cart per your drawing revision 1D. The only change not reflected on this revision is the "read/write" station location move to approximately 3" from the front of the unit. Also, we are in the process of trade marking a name for the product family. From here forward, please refer the stations as follows on all correspondence and drawings:

Pharmacy Station: MEPS Pharmacy Station
Patient Station: MEPS Patient Station
Med Cart: MEPS Dispensing Station

MEPS is an acronym for "Medication Error Prevention System".

Jim Caputo

"Jim Caputo" <caputoj@sbcglobal.net> on 02/04/2002 10:35:04 AM

To: Bmonahan@ems-rfid.com
cc: Shariq Hussain/Howard Energy@Howard Energy, Christer Andreasson/Howard Energy@Howard Energy
Subject: Drawing rev 1D

Brian,

This is to confirm my phone message to you from Friday, on the approval to proceed with the fabrication of the Med Cart per your drawing revision 1D. The only change not reflected on this revision is the "read/write" station location move to approximately 3" from the front of the unit. Also, we are in the process of trade marking a name for the product family. From here forward, please refer the stations as follows on all correspondence and drawings:

Pharmacy Station: MEPS Pharmacy Station
Patient Station: MEPS Patient Station
Med Cart: MEPS Dispensing Station

MEPS is an acronym for "Medication Error Prevention System".

Jim Caputo

"Jim Caputo" <caputoj@sbcglobal.net> on 02/06/2002 11:23:25 AM

To: "AMC-EMS Brian Monahan" <bmonahan@ems-rfid.com>
cc: Shariq Hussain/Howard Energy@Howard Energy
Subject: RE: Corrected drawing

Brian,

Thanks for the update. Also for the interface memo. It will be very helpful.

Jim

-----Original Message-----
From: AMC-EMS Brian Monahan [mailto:bmonahan@ems-rfid.com]
Sent: Tuesday, February 05, 2002 4:19 PM
To: Jim Caputo (E-mail)
Subject: Corrected drawing

Jim

Attached is the revised drawing (rev 1.E).
I have included the ACAD solid model drawing that you can import into solid works.

Changes included:
1) Corrected geometry of drawer insert to match dimensions.
2) Incorporated 15" LCD display from manufacturer's datasheet.
3) Some changes to the display cabinet to provide for proper mating of plywood pieces.

I have given Alan the go to build one drawer for testing The balance of the drawers needs to wait until we have worked out the circuit board and other issues.
And to start the cabinet. The electric panel (inside wall for electronics to mount to) will probably change as to where cutouts are and where holes are drilled. For now he will just cut the perimeter and no cutouts. This should be made so we can pull it out completely and easily.
The metal shields for between the drawers are being ordered as well.

I am working on the spring design and latches and will send you drawings of what I propose.

<<Med Cart 1E.zip>> <<Med Cart 1E.pdf>>

Call if you have questions.

Brian

Brian Monahan
Applications Development Manager
bmonahan@ems-rfid.com <mailto:bmonahan@ems-rfid.com>

Escort Memory Systems
170 Technology Circle
Scotts Valley CA 95066
831 438 7000 ext. 214
831 438 5768 (fax)

PS: We have another project (much smaller) we need your help on to. This something Johan is working on. He is Roger's replacement.

"Jim Caputo" <caputoj@sbcglobal.net>
02/09/2002 09:03 AM

To: candreasson
Subject: Weekly Report 02/4 - 02/08

---

o Received Rev1d on MEPS Dispensing Station. All changes have been incorporated into the drawing. (was approved last week on a mark up). I now have the ACAD file and would like to have Lorain turn it into a 3D drawing. This will be helpful in the future for production builds, regulatory etc. I will ask Bill for some of Lorain's time. I estimate about 4 hours max.

o Booked meeting with Roger Anderson at MD Anderson on the 21st of Feb. I will get with you on a preparation packet for presentation to Roger.

o Met with Mubashir and Shariq on the details of the screens and use cases. We spent about 3 hours going over the system screens and individual modules for the software. We should have some preliminary screens for review next week.

o Received the EMS agreement from Sanjeev on Friday. I will set up a conference call per our discussion of a couple of weeks ago with Christer, Jim, Mark and Cathy of EMS to discuss the changes they requested. We need to clear up the intellectual property ownership issue.

o Completed a preliminary budget for the fiscal year 02/03. (See attached) We need to discuss the assumptions.

Next

o Meet with Mubashir on progress with software development

o Conf call with Brian on progress with cart.

o Work on Rev B with Christer of budget

o Schedule off-sit on demo unit marketing strategy

o Conf call with Mark and Cathy of EMS on definitive agreement

 - 02.03 Budget.xls

"Jim Caputo" <caputoj@sbcglobal.net>

02/09/2002 09:13 AM

To: candreasson
Subject: FW: Corrected drawing

Christer,
FYI. I did not want to send this while you were in EU just in case to took too long to download.
Jim

-----Original Message-----
From: AMC-EMS Brian Monahan [mailto:bmonahan@ems-rfid.com]
Sent: Tuesday, February 05, 2002 4:19 PM
To: Jim Caputo (E-mail)
Subject: Corrected drawing

Jim

Attached is the revised drawing (rev 1.E).
I have included the ACAD solid model drawing that you can import into solid works.

Changes included:
1) Corrected geometry of drawer insert to match dimensions.
2) Incorporated 15" LCD display from manufacturer's datasheet.
3) Some changes to the display cabinet to provide for proper mating of plywood pieces.

I have given Alan the go to build one drawer for testing The balance of the drawers needs to wait until we have worked out the circuit board and other issues.
And to start the cabinet. The electric panel (inside wall for electronics to mount to) will probably change as to where cutouts are and where holes are drilled. For now he will just cut the perimeter and no cutouts. This should be made so we can pull it out completely and easily.
The metal shields for between the drawers are being ordered as well.

I am working on the spring design and latches and will send you drawings of what I propose.

<<Med Cart 1E.zip>> <<Med Cart 1E.pdf>>

Call if you have questions.

Brian

Brian Monahan
Applications Development Manager
bmonahan@ems-rfid.com <mailto:bmonahan@ems-rfid.com>

Escort Memory Systems
170 Technology Circle
Scotts Valley CA 95066
831 438 7000 ext. 214
831 438 5768 (fax)

PS: We have another project (much smaller) we need your help on to. This something Johan is working on. He is Roger's replacement.

"Jim Caputo" <caputoj@sbcglobal.net>
02/16/2002 02:43 PM

To: candreasson
Subject: Weekly Report 02/11 - 02/15 & Board Presentation draft

---

o Approved drawer spring load mechanism from EMS (see attached drawing)

o Review command outputs with Shariq and Mubashir (see attached word document)

o Reviewed definitive agreement changes with EMS (conf call with Christer, Jim, Mark and Cathy) EMS agreed to all items but section 7 "exclusivity" They will draft changes within 2 weeks for our review.

o Had Shariq order patient station to be delivered to EMS for reader integration. This station will house a computer,EMS reader/writer and touch screen.

Shariq met with Mubashir at his facility to review development progress. We will continue this at lease once per week and perhaps twice per week. I will attend the next meeting. We need to keep to the schedule and apply some pressure to all the suppliers. I am doing this with EMS/Brian. His indication is that we are on the overall schedule. The drawer sample was two days late to him but should not impact the overall schedule.

o Prepared for SSI Board Meeting. (See attached draft)

Next Week
o SSI Board Meeting
o Meet with Shariq on patient station status
o Prepare for and meet with Roger Anderson in Houston
First pass 02/03 budget review with Christer
o Follow up with EMS on Drawer sample results. (get digital photo if possible)
o Discuss marketing strategy with Christer at off-site in Houston
o Review draft "use cases" from Mubashir (has turne my two page document into a 26 page detailed use case list for all action and curser movements)

- spring_assy-1C.pdf
- Med Cart Software Interface Overview_.doc
- SSI Board Meeting Presentation021902.ppt

"Jim Caputo" <caputoj@sbcglobal.net> on 02/22/2002 10:32:39 AM

To: Shariq Hussain/Howard Energy@Howard Energy
cc:
Subject: RE: MEPS Software Dev Status 022202

Shariq,
The trip was good and the indications are that we are right on with our thinking. There are no surprises as of yet in the market need for our product. As far as a drawer, I thought Mubashir was going to use what he had at his point. Let's talk today either by phone or at SSI. I will be in a meeting until about 2PM and then can meet via phone or at SSI.

Jim

-----Original Message-----
From: shussain@hpubs.com [mailto:shussain@hpubs.com]
Sent: Friday, February 22, 2002 10:02 AM
To: caputoj@sbcglobal.net
Subject: MEPS Software Dev Status 022202

Jim,

I hope you had a good trip to Houston. Despite the last week hickups, Mubashir is still on schedule. He is flying in a programmer from Munster, IN to work on this project. We are aiming to have every thing ready in a simulation mode by March 11. Hopefully we will have MEPS cart available to us by then for integration. Once the cart is delivered, we will post this programmer at SSI. By being on site, he will be able to test and correct immediately any issues that come up.

Did you get a chance to talk to Brian about delivering a drawer to us? We will try to send a software diagnostic kit for Opto equipment operation to him next week. We tried yesterday with their built-in controls but didn't have much luck. Mubashir thinks that we have to tweak the controls a bit and should be ready by Wednesday of next week.

I am taking a day off today (Religious Holiday). But if you need to get a hold of me, please feel free to call me on my mobile.
Thanks,
Shariq

"Jim Caputo" <caputoj@sbcglobal.net>
02/23/2002 05:12 PM

To: candreasson
Subject: weekly report 02/18 - 02/22

---

o Conference call with Brian Monahan EMS -
-About a 3 days behind on the pc board assembly for the drawer
-Received a drawer from Elements for antenna integration and test
-Elements suggests making a mock-up of the entire cabinet prior to making the laminate (Will not be an up charge; due Wednesday next week)

o Nexterwerk is behind one week but according to Shariq will not be late on the schedule. (I think the Howard sale put him in some trouble. He has layed off about 35 people.
-Mubashir has finished use case list. I will be meeting with them on Monday afternoon at 2PM to discuss (see attached) It looks very comprehensive and inclusive of the specs we have provided Mubashir.

o Met with Dr. Roger Anderson. We are on track with our thinking for the value of this system.

o Reviewed preliminary budget. Will make the changes discussed in the meeting in Houston Marriott.

Next Week

o Meet with Nexterwerk and Shariq on software design progress
o Confirm schedule for a visit to EMS. May be next week. For sure 3/11
o Conference call with Brian on Tuesday for status of drawer test results
o Summarize marketing strategy as discuss in Houston

Christer,

Have a safe trip to England. It was a good trip to Houston. We are dead nuts on target with this technology and its benefits.

Jim

- SSI-MEPS Functional Specs022202.doc

"Jim Caputo" <caputoj@sbcglobal.net>
02/28/2002 10:39 AM

To: "Shariq Hussain" <shariq@hpubs.com>, candreasson
Subject: FW: Photos of cabinet mock-up

Chirster/Shariq,
This is a mock-up in plywood of the MEPS Dispensing Station. Now is the time to question anything as they will make the final next week. The drawer unit will have an insert and the a rounded front panel flush with the side panels of the cart.
Shariq, does Mubashir need to see this?

Jim

-----Original Message-----
From: AMC-EMS Brian Monahan [mailto:bmonahan@ems-rfid.com]
Sent: Thursday, February 28, 2002 10:08 AM
To: Jim Caputo (E-mail)
Subject: Photos of cabinet mock-up

Jim,

Here are photos of the cabinet mock-up.
The finished product will have a single side extending from the ground up to the top of the monitor enclosure.
Currently this is in sections in case changes were needed.
Also a 1" skirt will be around the base to hide the casters.
On the module the counter top is just plywood, it will be acrylic with a recessed area as shown in the drawing.
The drawer does not have the insert yet.
He is just waiting for me to give him changes or approval before he starts cutting the final enclosure.

I planned to do so by tomorrow.

Brian

<<MVC-001F.JPG>> <<MVC-002F.JPG>> <<MVC-003F.JPG>>

- MVC-001F.JPG
- MVC-002F.JPG
- MVC-003F.JPG